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THE HISTORY OF LANGUAGE

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PREFACE

When asked by Mr. Dent to write an introduction to the principles of Comparative Philology for his series, I willingly consented, not only because I had the necessary materials ready to hand, but also because I felt there was still room for an addition to the already large literature of the subject; a subject which, however, admits of being approached from so many different points of view that any competent treatment of it is sure to have some special merits of its own.

The first part of this book deals with the definition of the science of language, its scope (p. 20) and methods, and the life of language generally. In this part I have aimed at clearness of statement and adequate illustration, and have tried to avoid truisms and superfluous generalizations on the one hand, and over-abstraction and linguistic mysticism on the other.

In order to give greater definiteness and concreteness to the reader's impressions I have added a second part, consisting of a brief sketch of the structure of that family of languages to which English belongs—the Aryan or Indogermanic—together with a discussion of its affinities to other families of languages, which last will serve both to widen the reader's linguistic horizon and to prepare him to follow problems which cannot be ignored much longer.

In the last chapter the reader is introduced to a still wider view of language by the discussion of some of the most interesting questions of general philology—that of the

individuality of language and the connexion between language and nationality.

It need hardly be said that care has been taken to exclude antiquated views and statements. Arguments founded on language are so often appealed to by investigators in other branches of knowledge, such as archæology and anthropology, and the science of language affords so many analogies for the biologist and naturalist that it is important that the information given in works on language should be as reliable as possible. And yet we still meet arguments founded on the assumption that such a language as Chinese represents the primitive stage in the evolution of speech (p. 70), that the languages of savages change completely in a single generation (p. 79), that the old inflectional languages are the most perfect types of speech, and so on.

I have tried to confine myself as far as possible to the statement of those views and results which are generally accepted. But comparative philology is still too young a science to make it possible to exclude all unsettled and disputed questions. It would, for instance, be unreasonable to ask me to cut out all reference to the most ancient language in the world merely because a small but noisy band of paradox-lovers and hunters after notoriety still profess to disbelieve the existence of a "so-called Accadian or Sumerian language."

In short, every one who undertakes to write a book of this kind must rely on his own judgment. He must avoid as far as possible the discussion of questions on which he feels doubtful; but on the other hand he is bound to express his opinion definitely on all questions on which his mind is made up, even if he stands alone in his views.

I foresee most opposition to the chapter on Aryan affinities. In philology, as in all branches of knowledge, it is the specialist who most strenuously opposes any attempt to widen the field of his methods. Hence the advocate of affinity between the Aryan and the Finnish languages need not be alarmed when he hears that the majority of Aryan philologists reject the hypothesis. In many cases this rejection merely means

that our specialist has his hands full already, and shrinks from learning a new set of languages—a state of mind which no one can quarrel with. Even when this passively agnostic attitude developes into aggressive antagonism, it is generally little more than the expression of mere prejudice against dethroning Aryan from its proud isolation and affiliating it to the languages of yellow races; or want of imagination and power of realizing an earlier morphological stage of Aryan; or, lastly, that conservatism and caution which would rather miss a brilliant discovery than run the risk of having mistakes exposed.

I have therefore pursued the affinities of Aryan as far as the impartial application of generally accepted principles seemed to yield definite results. I cannot but accept these results, because, if I reject them, I must also reject the results of comparative Aryan philology itself (p. 120).

But I have not gone a step beyond what I feel to be solid ground. If I had pursued all the tempting combinations and far-reaching generalizations suggested by the linguistic discoveries of the last twenty years, it would, for instance, have been easy to connect Aryan with Chinese. But plausible as Lacouperie's and Ball's affiliation of Chinese to Sumerian is, it cannot be regarded as proved in our present ignorance of the history of Chinese itself. Till the history of Chinese sounds has been written any comparison of it with other languages cannot be anything but tentative.

It would have been still more premature to include in a book of this kind a discussion of the relationships of those languages which lie—or seem to lie—outside the "Aryo-Altaic" and Semitic families, especially as regards partially deciphered languages such as Etruscan and Hittite.

But mischievous as it would be to mix up conjecture with fact in such a branch of the subject as this, there is a time for pure hypothesis, and there is a place for it even in an elementary book. It would, for instance, be a mistake to ignore the question of the origin of language merely because it cannot be approached except by *à priori* conjecture: indeed, the mere

fact of this being the only method obviates any danger of misleading. So also the illustration of the possibility of existing languages being only a few centuries old (p. 88) is on the face of it frankly conjectural; if it turns out to be untenable it will still serve to enlarge the reader's knowledge and stimulate his imagination. Similar remarks apply to the discussion of the age of Aryan (p. 99).

From what has been said it is evident that although this book is not intended to be an original contribution to comparative philology, it must almost inevitably contain some original views and results. In the statement of the principles of sound-change will be found several modifications of earlier views: thus the inconsistencies pointed out by P. Passy in the exposition of these views has led me to a still further divergence from the views of the latter, culminating in the axiom that "the imitation of sounds is generally perfect" (p. 19). Much of what I have said about the conditions of linguistic change and stability is, I think, new, as also my view of the origin of the Aryan race (p. 129), which has already received the approval of some eminent scholars.

Oxford,
December 1899.

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THE HISTORY OF LANGUAGE

CHAPTER I

Language and its Study

What is Language? Language may be defined as the expression of thought by means of speech-sounds. In other words, every sentence or word by which we express our ideas has a certain definite form of its own by virtue of the sounds of which it is made up, and has a more or less definite meaning.

The first thing in the study of language is to realize clearly this duality of form and meaning, constituting respectively the *formal* and the *logical* (or psychological) side of language.

Although language is inconceivable without this polarity of form and meaning, it is often convenient—and even necessary—to look at language from a more or less onesidedly formal or logical point of view, as the case may be. The study of the formal side of language is based on *phonetics*—the science of speech-sounds; the study of the logical side of language is based on *psychology*—the science of mind.

But every expression of meaning by sound does not necessarily constitute language in the strict sense of the word.

Such sounds as *oh! ah! pah!* and the other interjections with which we express emotions, call for attention, utter commands, and so on, convey definite enough ideas, but by themselves they no more constitute language than the corresponding cries of animals do. Some of them indeed are

excluded from the language of the speaker by their form. Thus we have interjections consisting entirely of consonants, such as the lengthened *sh !* with which we enjoin silence, and the *pst !* with which Germans call waiters in restaurants: we have to make *sh !* into *hush* before we can admit it into the English language.

What these sounds lack is "articulation"—that is, logical articulation. From a formal point of view, such interjections as *pah !* or the cry of the cuckoo, or the bleat of the sheep, or the series of whistles with which a monkey expresses surprise or curiosity, are fairly articulate; but they are not logically articulate like the sentences of language proper, in which words are combined together to express corresponding combinations of ideas into thoughts. Such an interjection as *sh !* expresses the same ideas as the sentences *I wish you to be silent* | *be silent !* | *don't make so much noise !* but it expresses them vaguely: it is equivalent to a sentence, and yet is not a sentence. It is true that we can have sentences consisting of a single word, such as the imperative *come !* We regard *come* in itself as a word because we can freely combine it with other words to form sentences, which we cannot do with *sh !* till we have transformed it into a real word; it is therefore, as we have said, neither a word nor a sentence, but something between the two.

Language, then, implies the differentiation of *word* and *sentence*. It is evident that until it has reached this stage, it cannot claim to be an efficient expression or instrument of thought. This differentiation has not been attained by animals: they can express ideas by sounds, but they cannot combine these sounds together to express corresponding combinations of ideas. Thus they can make a sound which serves—whether intentionally or not—to warn their companions of danger; but they cannot, as far as we know, combine other sounds with it to indicate the nature of the danger; and if they indicate the source or locality of the danger, it is only by instinctive movements or glances.

There are other ways besides speech by which ideas may be communicated. One of these, as we have just seen, is *gesture*. When gestures, instead of being isolated, are consciously combined to show combinations of ideas, we have a true gesture-language, perfectly analogous to speech-language. Among the natives of North America the multiplicity of mutually unintelligible languages has led to the development of a common gesture-language in which conversations of some length can be carried on. A similar means of communication is often spontaneously developed among deaf-mutes in civilized countries. This natural language of deaf-mutes must be carefully distinguished from the artificial "deaf-and-dumb alphabet," which is a mere mechanical reproduction of the letters with which the words of the ordinary language are written.

This gesture-language is—in its simpler forms, at any rate —practically the same all over the world: it is said that deaf-mute children readily understand the sign-language of savages.

Language Imperfect and Traditional. In ordinary language or "speech-language," on the other hand, the connection between form and meaning is much less direct. It is far easier to find appropriate gesture-symbols than it is to find appropriate and self-interpreting phonetic ones. It is true that it is easy enough to suggest such ideas as those of blowing and drinking by sound, and we can perceive a certain connection between the initial consonants of the English words *mouth* and *nose* and the things these words stand for; but the gesture-speaker has a much simpler and surer way of expressing them by merely pointing to them with his finger, and in the same way he can indicate other parts of the face, and find gestures to express such ideas as hearing and seeing, which cannot be directly suggested by any combination of sounds.

Of course, in a highly developed gesture-language the meaning of the gestures would not be always self-evident; but the number of self-interpreting signs is always infinitely greater than in speech-language. The consequence is, as regards the latter, that a fully developed speech-language has

to be learnt from the beginning by each generation of its speakers; that is, it is kept up by tradition. This further implies permanent communities of some extent. The absence of these conditions among animals is alone enough to explain why they have not developed their interjectional cries into a genuine language.

But the superiority as regards directness of association is not invariably on the side of gesture-language, as we see in such an imitative word as *cuckoo*. It is evident, therefore, that ideas must from the beginning have been expressed by a combination of gesture and sound. As gesture is only available in the light of day or of the camp-fire and when the speakers are face to face, there would also be a tendency from the first to develop the more convenient sound-signs and to extend their use as much as possible, till at last they constituted the majority of the words, and what was at first an easily learnt natural language became a complex traditional one of infinitely greater convenience and range of expression.

Change; Dialects and Cognate Languages. As soon as language became traditional, the connection between sound and meaning became practically arbitrary, so that not only was there a necessity of continually adding to the vocabulary and making the means of expression more precise, but there was nothing to check the natural tendency to change which we observe in all languages. Languages thus began to have histories.

Again, natural gesture-language is uniform everywhere. A traditional speech-language, on the other hand, requires uninterrupted intercourse between the whole body of its speakers to keep it uniform, and as this is difficult or even impossible beyond a certain area, all languages tend to split up first into a group of dialects and then into a group of cognate languages, as when Latin split up into an Italian, a Gaulish, a Spanish dialect, etc., and these dialects developed into the separate languages Italian, French, Spanish, which together form part of the Romance family of languages, whose common parent-language is Latin.

Most of the changes in language are so gradual that the speakers of each language are unconscious of them at the time. Even those changes which are the result of conscious innovation must be the result of some natural tendency or general want; otherwise they would not be adopted by the majority of the speakers of the language. Besides, if every individual speaker modified the common language differently, the result would be mutual unintelligibility, which could be avoided only by keeping the language entirely unchanged; hence the mere fact of language changing implies uniformity of change in the language of each individual speaker of it.

Hence linguistic changes are, on the whole, regular. Given, for instance, a Latin word, we can generally tell beforehand with considerable accuracy what form it will assume in Italian and the other Romance languages; and if it is lost in any of these languages, we can often give a reason for the loss, as also for any changes of meaning a word may undergo in any one Romance language.

Comparative and Historical Philology. Conversely, by comparing words of similar form and meaning in the different Romance languages we can often tell beforehand what was the original Latin word of which they are all descendants; thus by comparing Italian *chiamare* with Spanish *llamar* we can infer the parent form, Latin *clamare*. In this way the science of comparative philology, as it is called, is able to re-construct to some extent the lost parent of such a family of languages as the Aryan by comparing together Sanskrit, Greek, Latin, English, and the other members of the family.

We see, then, that the comparison of such cognate languages as Sanskrit, Greek, and Latin is only an extension of the purely historical investigation which traces the changes of a single language, as when we trace the development of Old English (Anglo-Saxon) through the Middle English of Chaucer down to Modern English. So also, if all the Romance languages except Italian had been lost, comparative Romance philology would shrink to historical Italian grammar.

In reconstructing a hypothetical parent-language it is necessary to take all the languages of the family into account, for even those which have diverged most widely from the parent-language may preserve sounds or grammatical forms and other linguistic features which are lost in the other languages. Thus in the Aryan family English alone has preserved the original Aryan sound of *w*, and French still preserves the *s* of the plural of nouns, which is lost in Italian. And yet English and French are on the whole the least archaic, the least conservative languages of their respective families.

General Grammar. Historical and comparative philology content themselves with tracing the phenomena of a language or a group of cognate languages as far back as possible without necessarily trying to explain the origin of the oldest linguistic phenomena thus arrived at. This latter is the task of general (or philosophical) grammar, which deals, not with any special languages, but with the general principles which underlie the grammatical phenomena of all languages, whether cognate or not. In fact, general grammar prefers to compare languages which are genealogically distinct—or, at any rate, only remotely connected—because, when we find the same grammatical constructions and linguistic changes developing independently in several unconnected languages, we have all the more reason for believing that they are the result of some general tendency in language, as when we see English and Chinese developing almost the same principles of word-order.

Principles and Methods of Grammar. The imperfect nature of the association between sound and meaning in language not only makes it liable to continual change, but also determines its structure generally, so that language is only partly rational and logical: there is in all languages an element of irrationality.

In the first place, only a part of the phenomena of a language can be brought under general rules. Hence the separation of dictionary and grammar, the former dealing with the isolated facts of language, the latter only with what can be

brought under general rules. In an ideally perfect language such an antithesis would not exist; and the connection between the form and meaning even of such primary words as *man* would fall under general principles just as much as the formation of its plural or its place in an interrogative sentence —so that we should be able to give rules by which, perhaps, the *m* in *man* denoted "living being," the *n* denoted "rationality," and so on. It is evident that in such a language everything would be grammar, and the dictionary would be simply an alphabetical index to the grammar.

As science is concerned only with what can be brought under general principles, we can understand how the science of language deals mainly with grammar; in fact, if we only widen our conception of grammar a little, comparative grammar and comparative philology become convertible terms.

But even in grammar everything is not rational and symmetrical. The grammar of every language is full of irregularities, exceptions, anomalies, and inconsistencies—that is, the correspondence between grammatical form and grammatical function is imperfect. Hence the separation of accidence and syntax, which obliges us, for instance, to learn all about the different forms of the subjunctive mood in one part of the grammar, and learn the rules for its use in another place. Those who try to define accurately and consistently the line between accidence and syntax forget that the separation between the two is entirely a matter of practical convenience, not of scientific principle, and that in a perfect language any such separation would be not only irrational but impossible.

Even in syntax we can make a distinction between *formal* and analytical syntax on the one hand and *logical* or synthetic syntax on the other hand, the former being the point of view of the hearer, the latter of the speaker. The hearer has the forms given to him and has to infer their meanings, partly from the forms themselves, partly from the context; the speaker has the meanings in his mind, and has to select those forms which convey them most clearly. So also in the scientific investigation of a language we can either take such a

form as the nominative case—supposing the language has one —and examine its syntactical uses or grammatical meaning; or we can take such a grammatical relation as that of subject and predicate, and inquire into the different ways in which it is expressed grammatically either in some language or group of cognate languages or in language in general. It is evident that formal must precede logical syntax, which latter belongs more to general grammar.

Every grammatical category is—or ought to be—the expression of some logical category. Thus the grammatical categories "plural of nouns," "plural of verbs," or the more general ones "plural" or "number" are the formal expressions of the logical categories "more-than-ones" or "discrete quantity."

In a perfect language every grammatical category would correspond exactly to some logical category, but in actual language they often diverge from one another. Often, too, a grammatical category is more or less completely wanting. Thus, in many languages there is no grammatical category number, such an idea as that of "men" being expressed by the unmodified *man* and left to be gathered from the context, or else expressed by the addition of some such word as *many* or *some*, which is a "lexical" and not a grammatical method of expression.

Or a grammatical category may have so many disconnected functions that it is impossible to find any one logical category to correspond, as is the case with such an inflection as the dative in Greek and with some of the English prepositions.

Or it may have so vague a meaning that it is difficult or impossible to find any corresponding logical category; thus the distinction between such abstract nouns as *whiteness*, *goodness* and the adjectives *white*, *good* is a purely grammatical one, there being no logical difference between such pairs as *white* and *whiteness*.

Besides these negative defects, the grammatical and logical categories often contradict one another more or less directly

as in *many a man*, where the grammatical category "singular number" contradicts the meaning of the word *many*.

It is characteristic of the imperfections of language that the word "rule" in grammar always suggests the idea of "exceptions" and "irregularities."

The only phenomena which can be brought under general rules are those which have something in common by which they are associated together in the mind by the process of group-association, so that *association-groups* are formed. Thus the words *trees* and *houses* and all the other plurals in *-s* are associated together both formally and logically. Such plurals as *men* and *children* are associated with them logically, but from a formal point of view are only partially associated with them: *children* and *trees* are formally associated together inasmuch as they both have plural inflections, but they are disassociated by their inflections being entirely different. When we say therefore that *men* and *children* are irregular plurals, we mean that they are partially isolated from and stand outside the main group of regular plurals.

When logic triumphs over grammar, the result is sometimes an anti-grammatical construction, as in the frequent association of a plural verb with a singular collective noun (*the party were assembled*). Such constructions are often the result of ending a sentence with a construction different from the one with which it was began (anacoluthia), of which the example just given may also be regarded as an instance. An important class of antigrammatical constructions are those which result from a blending of two different constructions, as when in colloquial English we blend the two constructions *this kind* and *these things* into *these kind of things*. Blending is closely allied to anacoluthia, which may be defined as successive blending, while blending itself is really simultaneous anacoluthia.

There are also antilogical constructions, which misrepresent the logical relations between the ideas expressed by them. The most marked antilogical constructions are those which result from "shifting," as in the Latin *laudātum īrī* "to be about to praise," which means literally "to be gone to praise"

instead of "to go to be praised," the marking of the passive meaning being shifted from the transitive verb to the intransitive auxiliary, which is incapable of being conceived in the passive relation.

Effects of Change. The changes and anomalies in the growth of language which we have been considering are by no means purely injurious in their effects.

In the first place, even the purely destructive changes are often useful, as when phonetic decay shortens unwieldy polysyllables and gets rid of useless inflections.

Again, changes which result in the formation of new distinctions—as when in spoken English *I will not* develops into *I'll not, I won't*—though they greatly increase the complexity and irregularity of the language, are, on the other hand, essential factors in the development of language: as we shall see hereafter, such distinctions as those of the parts of speech are to some extent the result of phonetic changes; and it is mainly by metaphor and other changes of meanings that a language is able to build up a whole dictionary of abstract terms on the foundation of a few hundred root-words.

The Science of Language. The business of the science of language is first to get a clear idea of the nature of the various linguistic processes—sound-changes, loss of sounds, changes of meaning, etc.—and then to trace in detail their effect on the structure of language, explaining the causes of each phenomenon, and referring them all as far as possible to general principles. The science of language has, therefore, to deal with such questions as these:—Why do languages change? What are the exact processes by which one language splits up into a group of cognate languages? How are we to find out whether two or more languages are cognate or not, and how are we to find out their parent language? What is the origin of the distinction between noun and verb and the other parts of speech? What is the origin of inflections? Such questions as these naturally suggest still wider ones, such as the origin of language, the connection between race and language, together with others which are practical rather

than scientific, such as the applications of philology to the practical mastery of languages, the decipherment of inscriptions and other writings in unknown languages, and remoter applications of philology to archæological and historical investigations, as when by a study of the hypothetical primitive vocabulary of the Aryan languages we try to discover the state of civilization of the speakers of the undivided parent Aryan language.

It is a curious reflection to have to make that if language were a perfect expression of thought, there would be no science of language. Language would then be simply an art. There would be but one language unchanging both in time and place. Without linguistic change there could be no historical grammar and no comparative philology.

The peculiar charm of the study of languages lies precisely in the mixture of the rational and the irrational, the arbitrary and exceptional with the symmetrical and regular which they all present. After the inflexible logic of the exact sciences, it is a relief to turn to the science of language: a language is like a friend whose very faults and weaknesses endear him to us. The peculiar value of the study of language as a training for the mind is the result of its combination of scientific method with human interest. The science of language is in this respect intermediate between the natural sciences on the one hand and history and literature on the other, to which latter it is also the most indispensable auxiliary.

CHAPTER II

Sounds of Language

THE whole science of speech-sounds is included under *phonology*, which includes the history and theory of sound-changes; the term *phonetics* excludes this, being concerned mainly with the analysis and classification of the actual sound.

In discussing sounds it is necessary to employ a consistent phonetic notation, which we enclose in ( ) to prevent confusion with the traditional or "nomic" spelling of the language we are dealing with; thus (hedz) is the phonetic spelling corresponding to the nomic *heads*. In dealing with dead languages, whose pronunciation is more or less uncertain, it is better to keep the traditional spelling, and supplement its deficiencies by diacritics, as when we put a macron over the *a* of Latin *māter* to show that it is long, instead of doubling it (aa), as we should do in a purely phonetic transcription.

The first task of phonetics is to describe the shape and positions of the throat, tongue, lips, and the other organs of speech by which sounds are produced; this is the *organic* side of phonetics. The *acoustic* study of sounds classifies them according to their likeness to the ear, and explains how the acoustic effect of each sound is the necessary result of its organic formation. Thus the high pitch and clear sound which is common to the consonant (s) and the vowel (i) is the result of a narrow passage being formed in the fore part of the mouth between the fore part of the tongue and the palate; and this similarity of sound explains why in late Latin such

words as *spiritu*(*s*) developed an (i) before the (s), whence modern French (espri) through **ispiritu*.[1]

For scientific purposes it is necessary to have a general knowledge of the whole field of possible sounds, for in dealing with any one sound it is often necessary to know all the sounds it may have developed out of and all that it is liable to change into.

The first thing is to master certain general distinctions. The most important of these is *breath* and *voice*. In ordinary breathing or sighing the glottis or space between the vocal chords in the throat is wide open, so that the air from the lungs passes through without producing any sound except that caused by its friction against the sides of the throat and mouth passages. The simplest breath-sound is the aspirate (h). If, on the other hand, the edges of the glottis are brought together so that the passage of air between them makes them vibrate, we have voice. The simplest form of voice is the "neutral" vowel (ə) in sofa (soufə).

If the passage from the back of the mouth into the nose is left open by lowering the soft palate, we get a *nasal* sound, such as (m), which by closing the nasal passage becomes (b), as in *amber*. There are also nasal vowels, which we mark by adding (*n*), as in the French (væn) *vin*, where we have the nasal vowel corresponding to the English (æ) in *man*.

Consonants. If any vocal organs are brought together so as either completely to stop the passage, as in (b, m), or cause audible friction (hiss or buzz), as in (f, s), a consonant is the result. All consonants go in pairs of breath and voice. Thus to the lip-teeth-breath (or voiceless) consonant (f) corresponds the lip-teeth-voice (v). Breath consonants are sometimes expressed by adding the modifier (*h*) to the symbol of the corresponding voice consonant; thus (w*h*) in *why* is the breath consonant corresponding to the lip-back-voice consonant (w).

Some consonants have hardly any audible friction when voiced, such as (m, w, l). Such consonants resemble vowels,

[1] The * is used to show that the form is hypothetical only.

and are therefore called vowel-like (or liquid) consonants. But in their breath forms (w*h*, l*h*) the friction is clearly audible.

Consonants admit of a twofold division by form and by place. By form we distinguish *open* consonants, such as (s, w, f), *stopped* consonants, such as (b, t, k), *nasal*, such as (m, n), and *side* (or divided) consonants, such as (l), formed by stopping the middle of the passage, and leaving it open at the sides, and *trilled* consonants, which are the result of vibration of flexible parts of the mouth; thus in the trilled Scotch (r) the point of the tongue vibrates against the gums, the English (r) in *red* being the corresponding open consonant without any trill.

By place we distinguish *back* (guttural) consonants, formed by the root of the tongue and the back of the mouth, such as (k), *front*, such as (j) in *you*, *point*, such as (r, t, n), *blade* (s, z), formed by the point together with the surface of the tongue immediately behind it, from which the *blade-point* (*ʃ*) in *she* and (ʒ) in *rouge* are formed by raising the point of the tongue towards the (r)-position, *lip*, such as (b, m), *lip-teeth* (f, v), *lip-back* (w*h*, w), formed by narrowing the lip-opening and raising the back of the tongue at the same time. There are also throat-consonants: the throat-stop or glottal stop (ʾ) is the sound produced in coughing. The aspirate (h) may be regarded as a weak open throat-consonant, the peculiar Arabic consonants *ḥā* and *ʿēn* being strong open throat-consonants—(ḥ) the breath, (ʿ) the voice-consonant.

Beside the main positions back, front, etc., there are an infinite number of intermediate positions, which we distinguish roughly as *inner*, or nearer the throat, and *outer*, or nearer the lips. Thus (r) is inner point, (þ), as in *thin*, and (ð), as in *then*, are outer point or teeth-point, the ordinary English (t, d, n, l) being formed in an intermediate position.

The consonant (w) is really a compound consonant—formed in two different places at once. The German consonant (x*w*) in *auch* as compared with the simple (x) in *ach* is also a compound consonant, but in its formation the back element

predominates over the lip element instead of being subordinate to it as in (w) or (w*h*), so that it is a lip-modified back consonant, which we indicate by adding (*w*). So also we may use (*j*) to show front-modification. Thus the French (l) in *elle* is really (l*j*), the middle of the tongue being arched up towards the (j)-position.

Vowels. Vowels are the result of different shapes of the voice-passage, each of which moulds the neutral voice-murmur (ə) into a different vowel, mainly by different positions of the tongue and lips, but without narrowing the passage so much as to cause an audible hiss or buzz, which would make the vowel into a consonant. The number of possible vowels is as unlimited as the number of the organic positions which produce them. But if we select certain definite positions as fixed points, it is easy to determine intermediate positions.

If we pass from such a vowel as (i) in *pit* to (ɔɔ) in *fall*, we can feel that the root of the tongue is drawn back, while in (i) the fore-part of the tongue is raised towards the palate. We may therefore call (i) a *front* and (ɔ) a *back* vowel. In (ə) the tongue is in an intermediate position which we call *mixed*. Again, if we pass from (i) to (æ) in *man*, we can feel that the front of the tongue is lowered, so that we may call (æ) a *low* vowel as opposed to the *high* (i), in which the tongue is brought as close to the palate as is possible without making the (i) into a consonant—a kind of (j). If in passing from one to the other we stop half-way, we get the *mid* vowel (e) in *men*. If, again, we stop half-way between (i) and (e) we get the second vowel in *pity*, which we may define either as "lowered high-front" or "raised mid-front."

Every vowel may be *rounded* by bringing the lips together. Thus, if we round (i), we get the high-front-round (y), which is the sound of French *u*.

We have, lastly, the difficult distinction of *narrow* and *wide*. Thus French (i) in *si* is the high-front-narrow vowel corresponding to the wide English (*i*) in *it*, wide vowels being distinguished when necessary by italics. So also (*u*)

in English *good* is the wide of the Scotch (u) in *good*, which is the high-back-narrow-round vowel. In the formation of narrow vowels the tongue and flexible parts of the mouth are made tense and convex in shape, while in wide vowels they are relaxed and flattened.

Vowels of different formation often have the same, or nearly the same, pitch or inherent tone. Thus the high pitch and clear tone of (i) or (*i*) may be dulled either by rounding or retraction of the tongue towards the high-mixed position of (ï) in Welsh *dyn* or (*ï*) in English *pretty*, the result being that (ï) has the same pitch as (y), (*ï*) has the same pitch as (*y*). There is the same relation between the low-mixed-narrow (ää) in English *purr* and the low-front-round-narrow (œœ) in French *peur*, which are very similar in sound though formed in totally different ways.

"Widening" a vowel flattens the tongue and therefore has an effect similar to lowering the whole body of the tongue; hence the high-front-wide (*i*) is similar in sound to the mid-front-narrow (e) in French *été*. Mid-front-wide (*e*) in English *men* resembles the low-front-narrow (ɛ) in Scotch *men* and English *care* so closely that we can class the two together as "open" varieties of the "close" French (e). So also the mid-back-wide-round (*o*) in German *stock* and the low-back-narrow-round (ɔ) in English *fall* form acoustic pairs.

The various open voice consonants must necessarily yield more or less distinct vowel-sounds when their position are expanded so as to remove audible friction. Thus if we start from the back-open-voice (γ) in German *sage*, and increase the distance between tongue and palate, we obtain a pure vowel-sound, which will be either the mid-back-wide (a) in *father* or the mid-back-narrow (ɐ) in *come* if the (γ) is formed in a medium position, or the low-back-wide (*a*) of French *pâte* if we start from inner (γ). Conversely, if we narrow the lip-opening of (u), we get (w), and the front vowels become varieties of (j) when the tongue is brought close to the palate.

Synthesis. We have hitherto considered sounds from the point of view of *analysis*. We have now to consider their *synthesis*, that is, the different ways in which they are joined together. We first have to learn to recognize the distinctions of *quantity* or length, *stress* or loudness, and *intonation* or tone.

By quantity sounds are distinguished as *long*, *half-long* or medium, and *short*, the two former being indicated by doubling.

There are also three degrees of stress: *strong* (ˈ), half-strong or medium (ːˈ), and *weak*, which is marked when necessary by prefixing (-), these marks being put before the sound on which the stressed syllable begins, as in (ːkontrəˈdikt) *contradict*, which has exactly the same stress as the sentence (ːkem -ət ˈwens) *come at once!* A *syllable* is a group of sounds containing a vowel or vowel-like consonant uttered with one impulse of stress. If two vowels are uttered with one impulse of stress, they together constitute a *diphthong*.

Intonation is either *level* (–), *rising* (ˊ), or *falling* (ˋ). The rising tone may be heard in such questions as *what*ˊ, the falling in answers, such as *yes*ˋ. In intonation we must also distinguish the length of the rise or fall. Thus *what*ˊ with a short rise—beginning rather high—expresses mere inquiry, but with a long rise—beginning low—it expresses surprise or indignation. There are also compound tones formed by combining a rise and a fall in one syllable, viz. the *compound-rising* (falling-rising) tone marked ˇ, and the *compound-falling* (rising-falling) tone marked ˆ, as in *take care*ˇ expressing caution or warning, *oh*ˆ expressing sarcasm.

Glides are sounds in which the organs of speech do not remain in any one definite position, but keep on moving, so as to form an indefinite series of different positions. We generally make glides in passing from one position to another. Thus in such combination of sounds as (aja), we first have the (a)-position and then the movement up towards the (j)-position, producing an indefinite number of sounds intermediate between

(a) and (j). If we stop for a moment just before we get to the (j), we form a distinct (i), giving (aija).

But there are also glideless combinations, as in (hænd) *hand*, where the (d) is simply the (n) lengthened and unnasalized, so that there is no change whatever in the position of the tongue in passing from the (n) to the (d).

CHAPTER III

Sound Changes

THE sounds of any one period of a language are transmitted to the next generation almost entirely by imitation, only occasionally aided by inspection of the movements of the organs of speech. But it is to be observed that uniformity of pronunciation and perfect imitation are only relative terms. The differences in the quality of the voice caused by slight differences in the shapes and sizes of the oral passages in each individual make it impossible for one individual to imitate exactly the sounds of another. But we learn instinctively to allow for these inevitable differences, and by long practice we are able to know with certainty that our interlocutor's sound is as near our own as the peculiarities of our respective organs will allow, and we regard the imitation as practically, though not ideally, perfect.

The Imitation of Sounds Generally Perfect. The learning of vernacular sounds by imitation is a slow and difficult task, but the conditions of beginning in infancy, having nothing else to do, and, above all, of the mind being unhampered by conflicting associations with the sounds of other languages, are so favourable, and the inducements to learn are so strong, that the imitation is in most cases practically perfect. It is not only that mis-pronunciations tend to make the speaker more or less unintelligible, but there is also an incessant pressure brought to bear by the majority on all peculiarities of speech which are in the minority, this pressure being specially effective when it takes the form of ridicule. That the pronunciation of average normal individuals who

have emerged fron the tentative stage of infancy may be a perfect imitation of that of the preceding generation is proved by the numerous instances there are of unstable sounds being handed down unchanged through many generations. Thus the difficult Semitic throat-sounds which were lost in Assyrian more than 4000 years ago through mixture with a non-Semitic population, are preserved in Arabic to the present day. The preservation of Aryan (w) in Modern English—a sound which easily loses its back element and then passes into (v) on the one hand, and is liable to change to (*γw*, *γ*, *g*) on the other—is, perhaps, still more remarkable. It would be useless to multiply examples, because the preservation of sounds unchanged through at least several generations is the rule, not the exception, in all languages.

Organic Shifting. The main cause of sound-change must therefore be sought elsewhere. The real cause of sound-change seems to be organic shifting—failure to hit the mark, the result either of carelessness or sloth. Every one is liable to such failures occasionally; but as the failure of the organic sense—that is, the muscular sensations which accompany every movement of the organs of speech—is being continually corrected by the acoustic sense as well as by the necessity of making oneself understood, these inducements to change do not generally have any very appreciable permanent effect on the pronunciation. The same individual who makes *what?* into (woh) or (wo) or even a muffled (aa) and *yes* into a mere grunt, will, when excited or asked to repeat what he is saying, come out with a sharp and clear enunciation.

But a slight deviation from the pronunciation learnt in infancy may easily pass unheeded, especially by those who make the same change in their own pronunciation; for in this case the acoustic sense, instead of correcting, will encourage the innovation. If a speaker is isolated in any way from hearing the pronunciation of his contemporaries, his pronunciation will change rapidly, but it will, of course, have no effect on the pronunciation of the community at large. Adults who have become deaf generally develop marked

divergences from the normal pronunciation they formerly followed.

Acoustic Changes. Infants learning to speak do undoubtedly mispronounce through defective imitation, as when they make (þ) in *through*, etc., into (f), which is as purely an acoustic and not an organic change as that of (þ) into (s), so often made by foreigners. The frequent infantine change of (s) into (t) is, on the other hand, purely organic, for the two sounds have no acoustic resemblance whatever; this change is an example of "not hitting the mark," or, rather, of overhitting it: instead of merely bringing the blade of the tongue close to the palate, the child overdoes it by bringing the organs into actual contact. It is evident therefore that the child must first have learnt to pronounce (s) correctly—which is, indeed, one of the easiest sounds to imitate—and then have modified its own pronunciation through carelessness or forgetfulness.

In arguing from the mispronunciations of children we must be careful to distinguish between those which are peculiar to children's language and those which also occur in the language of adults. Now it is a significant fact that in actual language (þ) does not undergo the acoustic or imitative change into (f) or (s), but becomes (t), which, like the infant's change of (s) into (t), is an organic rather than an acoustic change. So also the Russian (f) in *Fedor* from *Theodore* is not a change in Russian itself, but is merely an imitation of an unfamiliar foreign sound.

But we must not go into the opposite extreme of denying all acoustic changes in normal speech. The frequent change of point (r) into the back consonant (ɣ)—either with or without trill—as in the usual French and German pronunciation, is an example, although this change is greatly helped by the fact that the back trill, in which the uvula (the extremity of the soft palate) is simply lifted up by the root of the tongue, is distinctly easier than the point one.

There is another class of acoustic changes which we may call "distinctive" changes, by which a sound is modified so

as to make it more distinct to the ear; thus when (b) and outer or dental (d) become open consonants between vowels —a frequent change in many languages—the resulting (ð) is kept, but the "lip-open" or bilabial (β) generally becomes the lip-teeth (v), which has a sharper buzz, and is more distinct from (w).

The frequent changes by which two sounds of similar acoustic effect are made more distinct to the ear are partly organic, partly acoustic.

Combinative Changes. The changes we have hitherto considered are *isolative* as opposed to *combinative* sound-changes, such as that of (x) into (ç) in German *ich*, where the front vowel (i) has changed the original back consonant—still preserved in Swiss German—into the nearest front one. This change is, of course, purely organic. In it, the assimilative influence works forwards. We have an example of backwards-working organic assimilative change in the mutation (umlaut) of the Germanic languages; for it is now generally admitted that such changes as that of back (uu) to the corresponding front vowel (yy) in Old English *mūs*, "mouse," plural *mȳs* from older **mūsi*, began with the change of (s) into front-modified (sʲ)—a sound which may be heard in Russian—which then gradually fronted the preceding vowel. Such influences may also be backwards and forwards at the same time, as in the very frequent voicing of a breath consonant between vowels, or when a voiced stop becomes open between two vowels—that is, is made more like a vowel—both changes being shown in the conversion of Latin *fata* into Provençal *fada*, French *fede* (feeðə), *fée*. When a diphthong such as (au) is "smoothed" into a long vowel (oo), there seem to be always intermediate stages such as (ao, ɔo, ɔɔ) with mutual assimilation of the two vowels.

Divergent Changes. All the above changes are convergent, and purely organic. There are also a large number of divergent changes, which are purely acoustic, being the result of striving after distinctness, as when the diphthong (ou) in *no* is exaggerated into (au) in the vulgar London and

other English dialects. The frequent change of (ii) into diphthongs of the (ai)-type, as in English *wine* and German *wein* from older *wīn* began with the failure to begin the vowel at the proper height, giving a very close (ei), which, being liable to be confused in sound with (ee), was made into (əi, ai, *ai*, oi), etc. by divergence. Such a change is therefore partly organic, partly acoustic.

External Changes. Such a change as that of Middle English *eyen* into Modern English *eyes* is evidently neither an organic nor an acoustic change. In fact it is not a phonetic change at all, but rather a substitution of one plural ending for another—a substitution by analogy, in this case the analogy of the regular plurals in *-s*. Such a change as that of *a* to *o* in the preterites *broke*, *spoke*, from earlier *brake*, *spake*, was regarded as an organic change by the older school of philologists, but we know now that this is as little a phonetic change as that of the plural *-en* into *-es*. In this case the analogy was that of the *o* of the preterite participles *broken*, *spoken*, etc.; *he spake* having nearly the same meaning as *he has spoken*, the vowel of the latter was extended to the former word. The change of (þ) into (s) in such inflections as *speaketh*, *speaks*, is probably also a purely "external" change, and not, as might be supposed, an example of defective imitation, for there is no other example of such a change at the time when (þ) became (s) in verb endings.

Changes Gradual. It is evident that such changes as that of (ii) into (ai) must be gradual in their operation, for the direct change would be equally opposed to organic and to acoustic principles. So also when we see (m) between vowels becoming (v)—as is often the case in the Celtic languages—we assume some such series as (*βn*, *β*, v), the first being simply a (m) formed with imperfect lip-closure.

If, then, we had reason to believe in such a direct change as that of (k) into (p), we should have to assume that the change was acoustic, which in this case would offer no difficulty, as all the voiceless stops are very similar in sound; if, on the other hand, we rejected the acoustic explanation,

we should have to assume some such series as (k*w*, p*w*, p) with various intermediate changes.

Sound-Laws. If a child or a foreigner makes *through* into (fruu), we naturally expect them to carry out this change of (þ) into (f) everywhere. Indeed, it stands to reason that if the child or the foreigner finds it "impossible" to pronounce (þ) in one word, he will find it just as impossible to pronounce it in any other.

When such changes are carried out in actual language, they are called sound-laws. Thus the sound-law that German *d* corresponds to *th* in English, as in *ding*, *denken*, compared with *thing*, *think*, means that the common Germanic (þ) has been changed in German into (d), of course, through intermediate (ð). In this sense, a sound-law may be regarded as simply a statement of the fact that in a certain period of a certain language its speakers got into the habit of mispronouncing a certain sound. The convenient expression sound-law must not be allowed to mislead us into regarding such a generalization as "Grimm's Law" as a general law or principle binding for all languages or even for all periods of one language: it is simply a collection of statements of the result of certain changes that took place at certain definite periods of certain languages. Thus from that part of Grimm's Law which states that to original Aryan voice stops correspond breath stops in Low German and English and various developments of aspirated breath stops in High German—as in Latin *domare*, English *tame*, German *zahm* (tsaam)—we may infer the possibility of such changes in other languages, but we cannot assume them anywhere as facts until they have been proved to have actually taken place. We can as little assume that because a certain change has taken place in one period of a language, it necessarily occurred at an earlier period or will occur at a later period of that language: each period has its own "sound-laws," and Modern German is no more able to change (t) into (ts) than English is.

In stating sound-laws we must of course be careful to make our statements as definite as possible. Thus the statement in

Grimm's Law that English *t* appears as *z* in German does not apply to the combination *st*, as in German *stein* = English *stone*, where the (s) prevented the development of the aspirate (th) out of which German (ts) developed, because (s) itself is a kind of aspirate, so that such a combination as (sth) would seem to be a double aspiration. It is evident that this is merely an exception to a statement, not to any actual law.

Specially important are the limitations of sound-changes by conditions of general synthesis. Thus the changes of long vowels follow quite different laws from those of short vowels; it is easy to see that the length of (ii) alone makes it possible to lower the first half of it towards (e) while keeping the second half unchanged, so that the change of short (i) into (ai) would be almost impossible, at least from an organic point of view.

The influence of stress is important. Long vowels get shortened in unstressed syllables, as in (fraidi) *Friday*, compared with (dei) *day*, and short vowels undergo different changes in unstressed syllables from those they undergo when under full stress, and are often merged in the one obscure (ə), which is then liable to be dropped entirely; thus to the Germanic form *sunnō* preserved in Gothic correspond Old English *sunne* with close (e), which has passed through Middle English *sunne*, *sonne* (sunnə) into *sun*.

Intonation, too, often has a considerable effect on sound-changes, and appears to be sometimes a direct cause of change. A rising tone or high pitch tends to raise the natural pitch of vowels, making *a* into *e* through (æ), while falling tones have the opposite effect of deepening *a* in the direction of *o*. Both changes may be observed in the Aryan languages; the *e* of the Greek vocative *híppe* is the result of the high tone on both syllables which naturally accompanies calling, while the *o* of the nominative *híppos* = Latin *eqvus* older *eqvos* "horse," is probably the result of a falling tone.

These limitations often give rise to **doublets**, such as the "strong" emphatic (him) and the "weak" (im), as in (ai sɔɔ ·him not ·həə) compared with (ai sɔ -im jestədi),

(ðæt) demonstrative and (ðət) conjunction and relative pronoun, as in (ai nou ðət ðæt s truw) *I know that that is true.* This last is an instance of how language utilizes new distinctions of sound which are the result of mechanical causes—in this case of difference of stress—to express distinctions of meaning or grammatical function. It often happens that a weak form whose origin is forgotten becomes strong—that is, capable of taking full stress—and then perhaps developes a new weak form of its own. Thus *of* and *with* were in Middle English pronounced (of, wiþ), which in early Modern English became (ov, wið) when unstressed. In the present English (wið) has entirely supplanted the earlier strong form (wiþ), which has become extinct, while *off* and *of* (ov) are now distinct words, the latter having developed a new weak form of its own—(əv).

As we have already remarked, such phenomena are not exceptions to sound-laws, but simply elements of a more accurate definition of them.

Many changes which were formerly regarded as genuine exceptions are now recognized to be external—that is, to be substitutions, not changes—so that such a change as that of *a* to *o* in *spoke* (p. 23) is no longer regarded as an exception to the law which requires *a* to be kept unchanged in such words.

Many exceptions which are not explained by analogy are the result of mixture of dialects or languages. Thus English *hale* is simply the northern form corresponding to the standard Southern *whole*, both being equally regular developments of the common form Old English *hāl*. Many irregularities in Latin phonology are the result of the introduction of words from the cognate languages Oscan and Umbrian. Such changes as those of (m) into (p) in such names as *Peggy*, *Polly*, are also the result of borrowing from a foreign language —that of the nursery.

Lastly, an isolated change is not necessarily an irregular one. Thus the change of old English *cwæþ* into modern English *quoth* is not parallel to that of *brake* into *broke*—on

the contrary, it is strictly organic and perfectly regular, but is the result of so many peculiar circumstances and shiftings of stress that it is the only word in the language in which this final result could be attained. So also with such a change as that of French *monsieur* into (psjɸ). That this last change is only occasional cannot be regarded as constituting irregularity, for every change must have a beginning; this change is only occasional simply because the combination of circumstances which alone make it possible as yet occur only occasionally.

If, then, we carefully remove all such disturbing factors as analogy, mixture of dialects, etc., we find our *à priori* conclusions confirmed—that is, that an exception to a law of sound-change is from the point of view of ordinary civilized languages impossible, and, indeed, almost inconceivable.

But in the actual life of language, a state of things in which internal sound-changes are carried out through several generations without being affected by external influences is almost as inconceivable. Hence from a practical point of view the "invariability of sound-laws" merely means that if an apparent exception does not fall under some organic or acoustic law, we should look out for analogy or some other external cause.

Phonetic Looseness. Nor must it ever be forgotten that language is only a means to an end. Civilized languages, which are spoken by populous communities and over areas of some extent, and which involve copious vocabularies and the expression of complex and varied thought, must be precise in their articulation; and the habit of precise articulation becomes so ingrained in the speakers of these languages that, as already remarked, they regard all deviations from their accustomed organic positions as impossibilities.

Under different circumstances, different ideals may prevail. Many savage and half-civilized communities certainly seem to take sound-change much more lightly than we do. Trustworthy observers tell us, for instance, that in one of the Polynesian languages of the Pacific, Samoan, the consonant (k) existed only in the single word *puke*, "catch!"; that it was

then substituted for (t) more and more in some of the Samoan islands, and then spread rapidly over the whole group. Whitmee remarks, speaking of Samoan, "many of the natives are exceedingly careless and incorrect in the pronunciation of consonants, and even exchange or transpose them without confusion, and almost unnoticed by their hearers; as in *mānu* for *nāmu* 'a scent,' *lagoga* for *lagona* 'to understand,' *lavaau* for *valaau* 'to call'; but they are very particular about the pronunciation of the vowels." There is similar testimony with regard to the other languages of the Pacific, not only Polynesian and Melanesian, but also some of the Malay languages.

Strange as such a state of things may seem, much of it is evidently only an exaggeration of what happens in all languages. Among the island populations of the Pacific the tendencies to careless articulation which exist everywhere are allowed greater scope partly from the intellectual indolence of the speakers, partly from the want of external restraint. In small, scattered communities which are constantly liable to be broken up into still smaller ones, the instability of external circumstances reflects itself in the language. Such languages are like the language of children: they are always starting afresh, and are in a constant ferment of experiment and phonetic licence checked only by the necessity of being intelligible to a small circle of hearers. The temperament and circumstances of these people are both those of children, and their sound-changes have a childish character. The instability of their surroundings gives their speech that tentative character which we observe in the articulation of infants. As already remarked, all changes must have a beginning. Even in such a language as German some one must have begun to make his (r) into a back sound, and to untrill it, and it was only gradually that the change spread through whole communities. The only difference is that in such a language as Samoan there are a greater number of such tentative changes going on at once.

When, however, we are told that a Samoan pronounces sometimes (t) and sometimes (k) at random, we seem to be really on unfamiliar ground. It is true that in some in-

stances this fluctuation is simply mixture of dialects. In other instances this explanation will not apparently hold good: there really seems to be a perfectly spontaneous fluctuation between the two sounds. But it would be desirable to have this fluctuation defined more closely. Does it mean that the speaker varies incessantly between outer (dental) and inner (t), outer and inner front (c), outer and inner (k) in uttering one and the same word? We do not find any hint that such is the case. If, on the other hand, it means that the speaker hesitates between two definite sounds—such as outer (t) and medium (k) — then the phenomenon cannot be described as laxity but as duality of pronunciation—a kind of traditional bilingualism, for which we are inclined to seek some non-organic external cause. If the speaker really uttered an indefinite variety of intermediate sounds, we might ascribe it simply to childish restlessness and love of variety—which, again, are external factors, not organic ones.

On the whole, it is best to admit that as yet we are not in full possession of the facts of sound-change in all types of languages and under all possible conditions, and that consequently our theories may still be one-sided. We may even have to admit that some languages allow each sound—or rather certain sounds which are less logically distinctive than the others—to diverge from its normal or medium articulation in all directions to a certain degree, so that a sound is to them not one definite point, as it were, but an indefinite number of points within a circle, as if in English we pronounced the vowel in *father* with a continual variation between broad French *â* and all the intermediate stages between it and the "outer" thin long (aa) which is nearly the (æ) in *man*. If we allowed the same licence to (æ) itself, it is difficult to see how (aa) and (æ) could be kept from running together, so that only the distinction of quantity would remain. There is much difficulty in realizing such a fluctuation, not only because it is opposed to the practice of most languages, but also because such carelessness can only be the result of laziness, and the lazier the speaker the more to his advantage it is to

select that shade of sound which is easiest and most convenient to form and to keep to it.

General Principles: Economy. We now come to the question whether there are any great general principles which underlie the special sound-changes or "sound-laws" of a given language.

There can be no doubt that the principle of economy plays an important part in the sound-changes of language. We have economy of time in the shortening of words and the dropping of syllables by which, for instance, the four syllables of the Middle English *bȳ cause that* have been shortened into (bikoz) and even into (koz). The spirit that prompted the English saying "time is money," is clearly stamped on the history of the language.

Economy of effort, or laziness, is most clearly shown in the way in which all languages strive after ease of transition, as in convergent sound-changes. Such individual changes as the untrilling of (r), which is common to many highly civilized communities, is an undoubted case of economy of effort. The fate of the consonants in many Polynesian languages, in which whole sentences can be made up of vowels only, reflects the listless indolence of their speakers. The laziness is often mental rather than physical, as when the distinction of short and long vowel-quantity is lost in such languages as Russian, and, to a great extent, in the Romance languages. Such changes as those of (þ) into (t), which are contrary to the principle of avoiding unnecessary physical effort, are really cases of mental laziness—in this case, of not taking the trouble to measure the distance between tongue and palate.

Comparative Ease of Sounds. It is dangerous to assume that the loss or modification of a sound is the result of its inherent difficulty—except in such cases as the untrilling of (r). The mere fact that a sound exists in any language is a proof that it is not in itself difficult. To the ordinary adult speaker all familiar sounds are easy, all unfamiliar sounds are not only difficult but impossible. The Semitic throat consonants have been handed down unchanged for many thousand

years, and Arab children learn them with as much ease as the other consonants; and their early loss in Assyrian, and their later loss in Hebrew and Ethiopic is simply the result of the large mixture of and contact with alien races to whom these sounds were unfamiliar.

When we observe the tolerably general tendency of sounds to change from back to forward by which (k) before (i) and the other front vowels becomes first the front-stop (c)—a stop formed in the same place as (j)—and then (ʧ), as in English *chin* compared with German *kinn*, and by which Latin *ū* becomes (y) in French *une*, the converse change being comparatively rare and generally due to external influences, we are tempted to attribute this to the greater effort of moving the more unwieldy root of the tongue. But this tendency is more probably due to the fact that the sounds formed in the fore part of the mouth are more numerous and more sharply defined than the back ones, so that the tendency is due rather to acoustic considerations of distinctiveness than to organic ones.

Relative Stability of Sounds. It is more profitable to consider the relative stability of sounds. Long vowels are less stable than short vowels because their length makes it more difficult to maintain the tongue-position uniform throughout them, and diphthongs are still less stable because of the temptation to convergent changes or the necessity of divergent changes; hence in English such a short vowel as *i* in *wit* is as old as anything in Sanskrit, while most of our long vowels and diphthongs are at most a few centuries old.

The most unstable sounds as regards position are those which can be modified in more than one direction, such as the medium mid (a) in English *father*, which can be changed in the direction either of (o) or (e). So also among the consonants, the front stops are remarkably unstable; they generally develop in the direction of (ʧ, ʃ, ʦ, s), as in French *chien* from Latin *canem* through (cæne), but they are sometimes shifted back to the (k)-position. Thus in Egyptian Arabic the Old Arabic front-stop-voice (ʒ) in *gamal*, "camel," has

become (g) instead of (dʒ, ʒ) as in the other dialects, although proof is still afforded that (ʒ) was the original sound by the development of Old Arabic *wagh*, "face," into (wiʃ) through (-ʒh, c, tʃ), the (ʒ) having been unvoiced by the (h).

Influence of Race and Climate. There can be no doubt that an intimate mixture of races leads to a mixture of language and of sounds, and that this effect may also be produced by mere contact of the two races, if continued long enough; but this introduction of foreign sounds is not change, but substitution. As regards modification of native sounds, we do not find that the children of Europeans born in Arab-speaking countries have any more difficulty in learning the Arabic sounds than the children of natives.

On the whole, the influence of other races and other languages is mostly indirect. In the first place, as we see from the Semitic languages, it tends to eliminate those sounds which are peculiar to the original language. Secondly, if there is any conflict between different tendencies, the foreign element will throw its weight into that scale with which it is most in sympathy.

The influence of climate may be seen in the frequency with which (a) is rounded in the direction of (o) in the northern languages of Europe—as in English *stone* from Old English *stān*—as compared with the southern languages, in which it is generally preserved; this rounding of (a) is doubtless the result of unwillingness to open the mouth widely in the chilly and foggy air of the North. But, on the whole, climate seems to have hardly more influence than race.

We must finally remember once more that all these general principles of change are subordinate to the main function of language, that is, the expression of ideas, and that all changes which imperil this function must be, and are, strenuously resisted. English people are quite as much inclined as French to drop final consonants, to get rid of (þ) and so on, but such tendencies are resisted in English because they would make the language unintelligible.

CHAPTER IV

Morphological Development

The Origin of Language. We have already seen that language proper or "traditional language" was preceded by what we may call "natural language," which consisted partly of gestures, partly of sounds and sound-groups directly associated with the ideas they represented. There are three principal ways in which such associations can be formed, yielding the three classes of imitative, interjectional, and symbolic words, all of which have left numerous traces in traditional language.

But caution is necessary in dealing with such words, for the association between words and their meanings is so strong that we are apt to assume a natural connection of sound with sense which may be purely imaginary. Thus to an Englishman the English names of the colours suggest the idea of each colour much more vividly than the French names; but a Frenchman would not admit that there is anything in such a word as *yellow* to suggest yellowness. Again, in many words which really seem to have an imitative or symbolic element in their sounds, this may be the result of comparatively recent sound-changes. Thus the (*ʃ*) in such words as English *shame* and German *scham*, *schande* has nothing to do with the interjection *hush!* the initial consonants in these words being merely late developments of older (sk), preserved in Swedish and Danish *skam*, etc.

Beginning, however, with the *imitative* words, there can be no doubt about such words as *cuckoo* and *cock*. Both of these words first appeared in English within—or almost within—

historical periods; both supplanted the earlier words *gēac* and *hana* respectively, the latter being preserved in Old English in the Northern dialects as well as in the compound *han-cred* "cock-crow," and to the present day in the derivative *hen*. Nor are either of them of foreign origin; they are, in short, new roots formed by direct imitation of the sounds uttered by the birds they represent. The origin of language is therefore by no means so mysterious a problem as many people would have us believe; it is a process which is going on almost under our eyes. There are hundreds of words in English, German, and other modern languages, which have been formed quite recently in similar ways. Thus the familiar word *humbug* appeared first about the year 1750, and was certainly evolved or invented not long before that time. Unfortunately we know nothing certain about its origin; and it is possible that it is merely a compound of the already existing words *hum* and *bug*, in which case it did not involve the creation of a new root. The word *hum* itself is, however, an undoubtedly imitative root of comparatively late origin, like *buzz*, *bang*, *pop*, and hundreds of others.

That imitative words really formed part of the vocabulary of primitive languages is clear from such words as *mau* "cat" in Egyptian and Chinese; in neither of these languages—which are not cognate with one another—is there any reason to suppose that there ever was any other word for the animal in question. When we consider such apparently imitative words as Sanskrit *kāka* "crow," and the many words in which the cries of birds are imitated by back consonants, we cannot but regard it as probable that Old English *gēac* itself was originally an imitative word.

These imitative words are important as bearing on the question of the original phonetic structure of language. On the basis of the fact that Sanskrit and Gothic have only three short vowels *a*, *i*, *u*, it used to be assumed that the older languages had much fewer sound-distinctions than modern ones. But we know now that this simplicity in the sound-structure of Sanskrit and Gothic is not original, but the result

of comparatively late levelling and the consequent loss of the two other vowels *e* and *o*. That primitive language must have had a large number of sounds to build up its words with is evident from the consideration that man in his pre-articulate stage was a hunter, and therefore must have been skilled in decoying wild animals by imitating their cries—which has always been an amusement of the young of the human species apart from any utilitarian considerations. Thus in the life of the Anglo-Saxon saint Gūþlāc, the enumeration of the good moral qualities displayed by him in childhood reaches a climax in the assurance, "nor did he imitate the various cries of birds."

We now come to the *interjectional* words. A comparison of the numerous interjections of disgust and dislike and similar emotions, beginning with lip consonants, such as *pah! fie!* Danish *fy!* German *pfui!* make it highly probable at least that the Aryan root which appear in Sanskrit as *pī* "hate," and in the Old English *fēond* "enemy," whence Modern English *fiend*, is of similar origin. The agreement of Arabic *wail* "calamity," also used as an interjection *woe!* with the English *woe*, Old English *wā-lā* "alas!" is the result of independent development of what appears to be an interjectional root.

The most interesting and important is the third class—the *symbolic* roots. These seem to have arisen by what we may call "lingual gesture," which, again, may have often begun with a cry for attention to the manual gestures involved in pointing to the teeth, lips, and other parts of the mouth. Sympathetic—at first unconscious—lingual gesture would then naturally accompany the hand-gesture, which by degrees would be dropped as superfluous; thus, supposing the cry for attention took the form of the clear open (aa), the "lingual gesture" for "teeth" might assume some such form as (ata) or (ada), which would at the same time serve to express the allied meanings "bite, eat, food," which could be gradually differentiated into such roots as those preserved in Latin *edere* "eat," *dens* "tooth" literally "eater" or "biter."

Such roots as those contained in English *wind*, German *wehen* "blow (of the wind)," may be regarded either as the result of actual blowing with the mouth, or as imitations of the sound of the wind. In either case some such breath sound as (w*h*) in *what* would be a better imitation, and this may have been the original form of the initial consonants of the root. Other lip consonants have the same symbolic or imitative meaning in Old English *blāwan* "blow," and the new formation *pyffan* "puff, blow," Chinese *fung* "wind," and in many other words.

We can hardly doubt that primitive man expressed drinking by an "in-breathed" open-lip-breath consonant, that is, by drawing in breath between the lips. As in-breathed sounds could not be long tolerated in the midst of the normal out-breathed ones, such sounds would soon be formed in the same way as the latter, whence the Aryan roots contained in Sanskrit *pibāmi*, Latin *bibere* "drink." We have what is probably another kind of symbolism in the Arabic *ſarab* "drink," whence our "sherbet."

But there is a similar class of consonants known as "clicks," which still survive in some primitive languages of California and South Africa, where they appear to have been native to the Bushman and Hottentot languages, whence they were borrowed by some of the Bantu or Kaffir languages, such as Zulu. The sound expressed by *tut!* is a point-click, formed by putting the point of the tongue in the (t)-position and sucking the air from under it, so that when the contact is released, a smacking sound is produced; so also a lip-click is a kind of smacking kiss, and a unilateral side-click is the old-fashioned sound for encouraging a horse. These sounds, as well as the in-breathers, were probably originally "food-sounds"—at first sounds accompanying the taking of food, which were then used to express the ideas of food, asking for food, etc. Just as Latin *bibere* is a disguised in-breather, so also such a word as Gothic *mimz* "flesh," "meat," may contain a disguised click.

It may be remarked that some of the interjections may be

partly or wholly symbolic, such as *hush!* whose dull hiss seems naturally to contrast itself with the sharp (s), which we instinctively use to incite a dog or imitate the sound made by a snake.

Symbolism seems even to have provided language with some of its purely grammatical elements. The demonstrative point-consonant in *the*, *tha(t)* = Greek *to*, *thou* = Latin *tu*, and numerous other words, seems to be the result of the sympathetic tongue-gesture which would naturally accompany the action of pointing with the fingers.

Some pronominal roots seem to have arisen through a vague symbolism which associated the easiest and most obvious of all consonants with "mother" and then with "me," the next easiest consonant (p) being then associated with the idea of "father," whose (f) by Grimm's Law corresponds to original Aryan (p) preserved in Latin *pater*. Nothing is more widely spread than the roots *ma* "mother," *pa* "father," and the use of *m* to indicate the pronoun of the first person. The association between the ideas "mother" and "myself" might easily lead to the idea of "father," suggesting that of "the nearest outsider," as distinguished from the remoter objects indicated by those consonants which result from lingual pointing—(t, n, l). When we find some languages using *m-* for "father"—as in the Georgian *mama* "father" —we need not be surprised to find a certain laxity in the use of the pronominal elements as well.

In the old-fashioned lengthening of the vowel of *little* to emphasize the idea of littleness we have an undoubted instance of deliberate symbolism, for the form *leetle* cannot be explained as a possible organic development of Old English *lytel*, the regular development of which, with the length of the vowel preserved, is seen in the proper name *Lyte*. Still more deliberate is the symbolism by which a modern French chemist made *sulphate* into *sulphite*, *nitrate* into *nitrite*, intending by the substitution of the thin-sounding (i) to indicate a less degree of chemical action—a symbolism which is lost in the English pronunciation (-ait). We find a similar

differentiation in the Manchu Tartar *ama* "father," *eme* "mother." In some savage languages the persons of the pronouns are differentiated out of the one common demonstrative form by the use of (i) to denote "I," (u) to denote the distant "he," and so on. Many primitive languages use (u) to denote bigness, reminding us of the German child who, according to Gabelentz, made up a language of his own in which the vowels were symbolically modified to show distinctions of size, so that when his father appeared before him in a big fur travelling-coat, he called him not *papa*, but *pupu*; so also he called an easy chair *lukul*, a miniature toy chair *likil*, and so on.

However uncertain these explanations may be, they are enough to show at any rate the possibility of language having been evolved through spontaneous associations of sounds with ideas.

Logical and Grammatical Development. But language has from the beginning a purely logical development as well.

It is enough to glance through the varied meanings of the commoner verbs and adjectives given in an ordinary dictionary of any language to see how easily a large vocabulary may be developed out of a comparatively scanty stock of root-words; and the impression is further strengthened if we look at a dictionary in which the words are arranged under roots and families of words. Even the most abstract metaphysical words are often transparently material in their origin, such as *concept*, German *anschauung*, and the word *metaphysics* itself, which is ultimately derived from a root meaning "to grow" —and any word may be more or less directly of imitative or symbolic origin. As Tylor remarks, "it might seem difficult to hit upon an imitative word to denote a courtier, but the Basuto of South Africa do this perfectly; they have a word *ntsi-ntsi*, which means a fly, being, indeed, an imitation of its buzz, and they simply transfer this word to mean also the flattering parasite who buzzes round the chief like a fly round meat."

But we are concerned mainly with the grammatical development of language.

The first step in this direction was to combine two or more of the primitive imitative or interjectional cries or linguistic gestures to indicate a combination of the ideas associated with them. When this was done—when, for instance, *hiss there bole* meant, or might mean, "there is a snake in that hole," or *cuckoo here* meant "the cuckoo has come," *cuckoo*, etc., came to be real words instead of vague sentence-words, as in the pre-linguistic period when the first sentence might perhaps have been vaguely expressed by the single word *hiss*.

At first the logical connection between the words of these primitive sentences must have been quite vague, and probably the order of the words did not matter much—in short, the sentence had no form.

Word-order. But even before the logical significance of word-order had dawned on the minds of the speakers, some sentences which had become stereotyped by incessant repetition must have settled down to a fixed word-order; and when this had been carried out in a number of separate sentences, some more or less definite general principles must have been evolved. Nor must it be forgotten that even in the pre-linguistic stage in which gesture predominated, there must have been some principles of order, for even the modern deaf-mute child follows certain principles in this respect, which are quite independent of the word-order of what would be his native language, if he were capable of speech. Thus Tylor tells us that "in conveying to a deaf-and-dumb child the thought of a green box, we must make a sign for 'box' first, and then show, as by pointing to the grass outside, that its colour is green. The true gesture-syntax is 'box green,' and if this order were reversed, as it is in the English language, the child might fail to see what grass had to do with a box." So also the deaf-and-dumb order of *the cat killed the mouse* is "mouse cat kill."

The principle of this arrangement is to mention first what is permanent and can be taken for granted, and then to add

whatever qualifies it. A tree is something permanent, while its greenness, the fall of its leaves, and still more its being struck by lightning, are more or less changeable attributes or phenomena associated with it; hence the natural logical order is *tree green, tree leaves fall, tree lightning struck.* Similarly the deaf-and-dumb order *mouse cat kill* implies that the idea which first suggests itself to the gesture-speaker's mind is that of the mouse running about.

This suggests another natural method of word-order, that is, putting first the word that expresses the most prominent or emphatic ideas. One result of emphatic word-order is that the same combination of words may show different orders under different circumstances. Thus, if in the last sentence the speaker thinks first of the cat watching at a mouse's hole, the word *cat* would naturally come first. So also if we see a man in the distance, we see first that it is a man and not an animal, and then perhaps see that the man is black, so that the idea man is the emphatic and permanent one; but if we say "not the white man but the black man," the last *man* has so little logical prominence or emphasis that we could omit it altogether.

In this way we can understand how different languages have different word-orders, and also how some languages have freer word-orders than others, the order being freest in those languages which, like Latin, show the relations between words by inflection, although even in Latin there are certain general principles, or at least, tendencies of word-order, so that it is only in the artificial language of poetry that we find such a violent separation of words as in

hanc deus et melior litem natura diremit.

It is easy to see too how in this way there have been periods of fluctuation and experiment in word-order, the result of which often was to show that the most natural or the most logical order was not always the most distinct or the most practically convenient. Thus in the purely nominal sentences—without any verb—of parent Aryan, which are still preserved in such

Latin constructions as *ars longa, vīta brevis*, it would be impossible to distinguish between "short life" and "life is short" without inverting the logical order noun + adjective, that is, making the originally emphatic and exceptional order adjective + noun the ordinary normal one. The extensive occurrence of this order in a variety of languages shows that it must have had some practical convenience to recommend it.

Composition. This "pre-adjunct" order—putting the adjunct or modifying word before its head-word, that is, the word whose meaning it modifies—is evidently very old in Aryan, for it is the basis of the Aryan method of forming compound words. Such compounds as the Sanskrit *rāja-putrá* "king's son," Greek *hippo-dámos* "horse-taming," *theó-dotos* "god-given, given by a god," are simply fragments of sentences—they were originally free groups of words preserved from the pre-inflectional period of Aryan, in which grammatical relations were shown by merely putting the adjunct-word before its head-word; in the above compounds the first elements are equivalent respectively to genitives, accusatives, and instrumentals or ablatives. As the connection between the members of such groups was felt to be more and more intimate, the whole group came at last to have only one accent, as if it were a single word; hence, when it became the rule that every noun and adjective must have its relations to the other words in the sentence shown by inflection, the first elements of these groups were passed over and allowed to remain uninflected, and being regarded now as only parts of words, they lost their freedom of position in the sentence, and so such a form as *hippo* could only form part of a word, and was no longer an independent word.

In a compound, the simple words of which it is made up are brought into such close connection that they are "isolated" from the other words of the sentence in which they occur; but nevertheless each element must be recognizable as being, originally at least, an independent word. Thus, although *hippo* is not in itself an independent word, the mind connects it without effort with the independent word *híppos;* and in

English the compound *blackbird* is isolated from the group *black bird* only by having one strong stress instead of two, and by having a special meaning which does not result from merely putting together the meanings of *black* and *bird*.

If both elements of a compound cease to be recognizable, the compound becomes indistinguishable from a simple word, as in the case of the monosyllabic *lord* from Old English *hlāford*, itself a disguised form of the compound *hlāf-weard* "bread-guardian."

Derivation. When one of the elements of a compound or word-group is isolated from any association with an independent word, as *-ord* in *hlāford* is isolated from *weard*, it often develops into a derivative prefix or suffix, that is, a sound or group of sounds which can be added to words to form new words, not mere compounds. Thus the ending *-lic* in Old English *wīflic* "womanly, feminine," is only a disguised form of *līc* "body," so that *wīflic* was originally a possessive compound, "woman-body" meaning "having the body or form of a woman." So also the derivative prefix *un-* in *unknown*, *unseen* differs only from *not* in being incapable of separation from the word it modifies.

Composition and derivation, though the result of the fixed order of words in sentences, are thus word-forming and not sentence-forming processes. We will now turn our attention to the grammatical means—other than word-order—by which this is effected.

Form-words. In such a sentence as *the nature of man is radically good* we can observe two classes of words, viz. *full-words—nature, man, radically, good*—and *form-words* or "empty words," as the Chinese grammarians call them—*the, of, is*—which have little or no independent meaning of their own, and serve only to define the meaning of full-words and show how they are connected together. In gesture-language such a sentence would be expressed—if it could be expressed at all—simply by the juxtaposition of its full-words. In Chinese also this sentence could be translated into one composed entirely of full-words: *jin siŋ̀ pen' fèǹ*, literally,

"man nature root good." In Chinese the fact that "man" is an adjunct to "nature" might be made clearer by putting between them the form-word or particle *ci—jin ci sin*.

The older school of philologists regarded form-words as arbitrary inventions made for the express purpose of showing grammatical relations. One of the earliest and most energetic opponents of this view was our countryman Horne Took, whose *Diversions of Purley*, first published about 1770, is an attempt to show that even prepositions and conjunctions once had a definite independent meaning, and are simply worn-down forms of full-words—a view which is now generally accepted. Thus he connects *if*, Old English *gif*, with the verb *to give*, making out that *if* originally meant "given (or granted) that." Although we know now that this view is incorrect, and that *if* is really formed from an old noun meaning "doubt," we cannot be severe on Horne Took for this and the other mistaken etymologies in his book; as regards *if*, he was misled by the Scotch form *gin*, which, however, really seems to owe its *n* to association with the participle *given*.

Even when we cannot trace a form-word back to an original material form-word, we can generally make it at least probable that it once had a definite meaning. Thus we can trace back the history of *the* to a period when there was no article at all—as is still the case in Russian and Finnish—and *the* had the full demonstrative meaning "that" or "this," till at last we can trace it up to the Aryan demonstrative symbolic root *t-*.

Inflected form-words such as *is* are, of course, of much later origin. This word originally meant "dwell," and *be* originally meant "grow," and we can still see traces of a distinction of meaning in the early Sanskrit use of *as* and *bhū*, the latter being used mainly with reference to innate or permanent attributes. So also the Spanish *estar* "be" is simply the Latin *stare* "stand." We can easily see from such expressions as *it stands to reason*, *stand convicted*, *rest satisfied*, how full verbs may sink into "link-verbs," and then into mere grammatical devices for showing that the following word is a predicate.

Inflection. Inflection itself has exactly the same function as the use of form-words, as we see by comparing *the nature of man* with *man's nature*. The difference is a mainly formal one: a form-word, however abstract its meaning may be, is still to some extent an independent word, while an inflection is formally on a level with a derivative element, being only a part of another word with which it is indissolubly connected. Not that there is necessarily any formal distinction between an inflection and a form-word. Thus in *John's here* the form-word *is* is run on to the preceding word exactly in the same way as in *John's house;* but we can easily show that in the former sentence the *s* is really an independent word by transposing into *here's John*, or by making it emphatic—*here* is *John*. So also Chinese *ci* is as much an independent word as English *of;* if it became inseparably connected with the preceding word, *jinci* would be almost as much a genitive case as *man's* is.

We can see the development of inflection out of independent words which have lost their formal independence in such forms as the French future *parlerai* from Late Latin *parabolare habeo* "I have to speak," and the modern Scandinavian passive formed by adding *-s* to the corresponding active forms, the *s* being a shortened form of Icelandic *-sk*, as in *būask* "prepare oneself," whence the borrowed English *to busk*, the *-sk* again being only a shortening of *sik* 'oneself.'

Inflections such as these last, which are added to an already inflected word, are conveniently distinguished as "secondary" inflections. But it must always be borne in mind that any of the inflections we call "primary" in Aryan may be really of secondary origin, for an inflectional system is not necessarily built up all at once.

As the end of a word or group of words is more liable to phonetic decay than the beginning, most inflections assume the form of "post-flections." We have examples of "pre-flection" in the Arabic verb; thus *kataba* "write" has present or future *taktubu* "she writes," with preflection, preterite *katabat* "she wrote," with post-flection. The Aryan

augment, as in Greek *é-tupe* "he struck," may be a genuine primary pre-flection, while the *ge-* of the Old English preterite participle, as in *ge-clip-od* "named, yclept," is an example of a secondary pre-flection.

The curious phenomenon of "intro-flection," as in Arabic *iktasaba* "he acquired for himself," from the root *kasaba* "gain," seems to be developed out of the two other forms; thus *iktasaba* is the result of transposition of the *t* of earlier **it-kasaba*.

In some languages introflection is very fully developed. A similar phenomenon is also found in derivation. In both cases it seems to be the result of a desire to join the "adfix" or addition to the original word or "stem" as closely as possible.

Another way in which inflections are more intimately connected with their stems is by sound-change, as when some such inflection as **fōti* developed in Modern German into *füsse* with a vowel different from that of the singular *fuss*. In the corresponding English plural *feet*, the old *-i* after causing a similar mutation (p. 22) of the preceding vowel was at last dropped entirely, so that the inflection is now marked by vowel-change only. The "gradation" of our strong verbs by which we distinguish such forms as *sing*, *sang*, *sung*, is a striking instance of how sound-changes which were originally accidental—in this case the result of the stress falling on different syllables in different inflections of the verb—have come to have a definite grammatical inflectional function.

Of course, if an inflection is lost before it modifies its stem, the word becomes uninflected, as also, if any modification left behind by the lost inflection is afterwards got rid of by further change either internal or external. Thus in Old-English the older neuter plural **scēapu* "sheep" lost its *-u* in accordance with the general law that the *-u* of the neuter plural is dropped after a long syllable, so that in Old and also in Modern English the word has the same form for singular and plural. We have examples of much more extensive loss of inflection. Thus in Old Arabic the cases are distinguished mainly by the three endings *-u*, *-i*, *-a*, standing respectively for the nominative,

genitive, and accusative ; these light endings were dropped already in Old Arabic at the end of a sentence, and were then dropped everywhere, so that Arabic has now no cases at all.

It may happen that an inflectional element, instead of becoming more and more a part of its stem till at last, perhaps, it disappears altogether, may pursue the opposite course of development, and even regain something of the formal independence of the free particle or full-word of which it is the descendant. This has happened with the genitive ending in English. Such a group of words as *commander-in-chief* still forms its plural *commanders-in-chief*, but its genitive singular is *commander-in-chief's*—a form which might lead a speaker of a rigorously inflectional language like Latin to infer that the preposition *in* governs the genitive in English. So also, while in Middle England they still said *the kinges sune of Engelond*, the present construction is *the king of England's son*, the genitive inflection being freely added to the last member of a group, even if it is an adverb or some other word incapable of taking such an inflection; the genitive inflection in Modern English is, in fact, treated as if it were a suffixed preposition or particle.

When to the purely phonetic and mechanical possibilities of change and decay are added the logical changes of function and meaning to which inflections are as much liable as independent words, we need not be surprised to find great divergence between form and function in most inflectional systems. Even in so simple an inflectional system as that of English we have homonym inflections such as *man's*, *speaks*, and synonym inflections such as *horses and oxen*. No one would think of trying to find a common meaning for the inflections of *man's*, *dogs*, and *speaks*; but it is almost as futile to attempt it with such a grammatical category as the dative case in Greek, which is really made up of a variety of Aryan cases—dative, ablative, locative—which have been confounded together partly by phonetic decay, partly by confusion of meanings and grammatic functions.

Hence the development of schemes of inflections such as the declensions and conjugations of Latin, which are partly

made up of periphrastic forms, that is, of combinations of inflected words with form-words, which form-words, again, may be either uninflected particles as in the English *to go*, or inflected words such as auxiliary verbs. It is evident that such Latin perfects as *dīxit* and the periphrastic *locūtus est* are logically identical in character.

Reduplication. One of the most primitive and natural ways of strengthening, emphasizing, or otherwise modifying the meaning of a word is to repeat it; even in English we can say *good good* or *bad bad* in the sense of "very good," "very bad." Such repetition-groups are very common in many languages, such as those belonging to the Malay group. They are used to express a great variety of meanings and grammatical functions, such as plural of nouns—*man-man* = "men"—the superlative degree of adjectives, to make verbs causative—*grow-grow* = "make to grow"—and many others.

Such repetitions are apt to be disguised by phonetic changes, as when in Japanese *kuni* "country" makes its plural *kuniguni* through the tendency to make a breath consonant voiced between vowels. There is also a tendency to shorten the first element, so that instead of two distinct words we have only reduplication, that is, a repetition of its first syllable, as in the Aryan reduplication preserved in such perfects as Latin *momordī* "I bit," Gothic *haihait* = *hehait* "I commanded," which in Old English appears in the disguised and contracted form *hēt* "commanded, named," traces of the reduplication being, however, still preserved in the Anglian form *hehte*, whence in Middle English *highte*, "hight, was named."

We see from reduplication that what appears to be inflection is not necessarily the result of independent form-words having lost their independence, although such a prefix as *mo-* in *momordī* is really in a certain sense a worn down full-word.

Origin of the Parts of Speech. It is evident that the relations between full-words in a sentence depend partly on their meaning. Thus *man*, *tree*, *snow*, and other "substance-words" are most frequently used as head-words, to be further

defined by "attribute-words," some of which denote more or less permanent attributes, such as *big, green, white,* while others denote changing attributes or phenomena, such as *come, fall, melt.* There is further a tendency to take the permanent attributes for granted, and so to use them attributively, while phenomena, which cannot be so easily taken for granted, require to be stated expressly in the form of a predicate, as in *the big tree fell.*

These three kinds of words—substance-words, attribute-words, and phenomenon-words—would tend therefore to associate themselves with different grammatical functions and to take different positions in the sentence, and by degrees different classes of form-words would cluster round them. Thus substance-words would often be used as subjects and come first in the sentence, and would naturally be modified by words expressing distinctions of number and place, which by degrees might develope into inflections of number and place—*one tree, two trees, three trees, many trees, at the tree, behind the tree, under the tree, away from the tree,* etc. Phenomenon-words would be first used mainly as predicates, and would gravitate towards the end of a sentence, and would be naturally accompanied by words denoting distinctions of time, activity and passivity and other conditions of phenomena, which might gradually develope into tenses, moods, voices, etc. Permanent attributes, lastly, would naturally immediately follow or precede the substance-word they qualified. In short, substance-words, attribute-words, and phenomenon-words would gradually develope into nouns, adjectives and verbs respectively.

But from the beginning it would be necessary to make statements about the greenness and other attributes of trees as well as their falling, and also to use substance-words as predicates; and in time the want would be felt of using phenomenon-words as attributes (*running water*), and also of using attribute-words and phenomenon-words as subjects of statements or as head-words. Hence most languages have devices for making adjectives into "abstract nouns," such as

greenness, and verbs into verbal nouns or infinitives and verbal adjectives or participles.

In this way, although the idea of substance-word almost necessarily calls forth the idea of the grammatical category "noun," the converse is not the case: the term noun cannot possibly be defined by reference to the meanings of the words included under it. We can hardly define a noun even by its purely grammatical functions: it is true that the main function of a noun is to serve as a head-word or subject-word, but a noun in the genitive case or as the first element of a compound may be a pure attribute-word having the function of an adjective, and any noun may be logically a predicate—for in such a sentence as *gold is a metal*, the strictly grammatical predicate is *is*, but the logical predicate is *metal*. Indeed, the only certain tests of nouns and the other parts of speech are purely formal ones. Such a word as *stone* is a noun not because it is a substance-word, but because it has plural *stones*; and *silk* in *silk thread* is not an adjective for the purely formal reason that it does not admit of degrees of comparison, while *silken* in *silken thread*, although in this connection it is quite as much a substance-word as *silk* itself, is an adjective because its form allows of such a comparative as *more silken*.

In a language like Chinese, which has no inflections and uses only a few grammatical form-words, and relies mainly on word-order, it is still more difficult than in English to discriminate the parts of speech. Apart from their grammatical context Chinese words can only be classed as substance-words and phenomenon-words—"dead words" and "living words" as the Chinese grammarians respectively call them—and so on. If a substance-word is put before another substance-word—either with or without the particle *ci* between them—it becomes an adjunct-word. Further than this we cannot go in our grammatical analysis of Chinese. We have no right to call *jin ci* either an adjective or a genitive case, nor can we settle definitely whether *jin* in *jin siŋ* is to be regarded as a genitive or an adjective, or whether the two

words together constitute a compound or a mere word-group. Hence what we for convenience call nouns and adjectives in Chinese are strictly speaking only noun- and adjective-equivalents, just as in English we might call *of man* a genitive-equivalent or *oh man!* a vocative-equivalent. In such a language as Latin, on the other hand, *vir* is definitely a noun and nothing else, and if we wish to use it as an adjective we must change it into some such form as *virīlis*, which, again, has to be further modified before it can be used as an adverb.

But, after all, the differences between languages as regards clearness of the parts of speech are only of degree. There is even less formal distinction between adverb and conjunction in English than there is between noun-equivalent and adjective-equivalent in Chinese. Even in Latin we cannot tell without the context whether such a word as *senex* is a noun or an adjective.

Evolution of the Verb. In languages which do not definitely mark off the parts of speech there can be no verb: there can only be phenomenon-words and predicate-words; a phenomenon-word may be used as a predicate-word, but it may also be used as a subject-word—that is as a noun-equivalent. In Chinese any word may be used as a predicate, and, as we have seen, even in Aryan, nouns and adjectives could be used as predicates without the help of a verb. In Old Arabic the distinction between nominal and verbal sentences is quite a regular and normal one. When in Old Arabic a nominal sentence would otherwise be ambiguous, or when it is desired to emphasize the subject, a personal pronoun of the third person is inserted, as in *allāhu huwa l ḥajju*, "God is the living one," literally "God he the living."

This addition of a personal pronoun is a common method of marking the predicate in a variety of languages. Although we still know very little of the origin of the Aryan inflections, we know that the personal inflections of the verb are simply personal pronouns that have lost their independence. We can still see the pronoun of the first person in the English

a-m and that of the third person in *ha-th*, whose (þ) is a modification of Aryan *t*, originally a demonstrative gesture-sound.

But we must not suppose that such combinations had a definitely predicative function from the beginning. It is clear from a study of primitive languages that such a word as *hath* or *has* originally meant nothing more than "his having" or "his holding." Indeed, there are many languages in which there is no distinction between the personal element in "he has" and the possessive "his house," both being expressed by adding the same personal pronoun or pronominal suffix to a noun or noun-equivalent; as in Old Egyptian, where *meh-a* "I fill," literally "filling of me," has the same form as *pera* "my house."

The next step in the evolution of the verb was the development of a special form for predication made distinct from the possessive form, either by the disuse of the latter in its suffixed form, or else by one or both of the two forms undergoing different sound-changes, or by any other process of differentiation. Thus in Finnish *käte-ni* "my hand," *käte-si* "thy hand," the endings are distinct from and yet evidently allied with those of *sano-n* "I speak," *sano-t* "thou speakest."

These last forms are verbs in the strict sense of the word. But it is evident that at first the only result of the differentiation of "I speak" from "my speech" was to create a special form to express predication. In some languages, the predicate-inflections by means of what were originally pronouns can be applied to any word, just as in Chinese any word can be made into a predicate by putting it in certain definite positions with regard to other words in the sentence. In some African languages even personal pronouns can be "conjugated" in such sentences as "it is I."

Verb in its strict grammatical sense implies the antithesis of noun. The Finnish, Aryan, and Semitic verb is a true verb because its personal endings are not added to any word indiscriminately, but only to certain definite words which, as a whole, belong to the class of phenomenon-words. When

this stage is reached, so far from "I speak" being felt to be equivalent to "my speaking" or "my speech" with the idea of predication added, the two words *speak* and *speech* are regarded as forming opposite poles as far as their grammatical functions are concerned.

The difficulty which now arises as to how to use words that are not phenomenon-words as predicates is solved, as we have seen, in two ways. One is to keep up the primitive method of showing that a word is predicative by simply putting it after its subject, resulting in nominal as opposted to verbal sentences. The other is to develope verbs of feeble phenomenality, such as "stand, sit, grow" into "copulas" or verbs of pure, abstract predication; such verbs are, logically speaking, predicative prefixes (or suffixes) to the real logical predicate.

Evolution of the Preposition.—The evolution of the preposition is second in importance only to that of the verb.

A preposition is, logically speaking, a word put before a noun-word—noun, pronoun, infinitive—to make it into an adjunct-word. Thus in *a man of honour* the "preposition-group" *of honour* is an adjunct to the noun *man*, in *free from care | he did it with ease*, the preposition-groups are adjuncts to an adjective and a verb respectively. Another way of making a noun into an adjunct is by inflecting it; hence the preposition *of* in *of honour* is logically equivalent to a genitive ending, and *from care* in *free from care* is equivalent to *care* in the "caritative" case, and so on, so that we may call *of honour* a "genitive-equivalent." It must be understood that every word that is capable of making a noun-word into an adjunct is not necessarily a preposition; thus in *a man having* (*a sense of*) *honour*, the participle *having* undoubtedly has this function, but it is not a preposition simply because it is a part of a verb with nothing to make it different from any other verb—that is, no word can be regarded as belonging definitely to the class of prepositions or any other part of speech unless it is isolated or marked off in some way from the other parts of speech.

Such words as *of*, *from*, *with*, which are completely isolat

from all parts of speech except that of prepositions by being used only as prepositions are called *primary* prepositions. It is true that *of* is evidently connected with the adverb *off* and *from* with the adverb *fro* in *to and fro*, but they are distinctly separated from them not merely by difference of meaning but also by difference of form—they are, in fact, distinct words. There is a less distinct kind of prepositions called *secondary*, which were originally words belonging to other parts of speech used analogously to primary prepositions, as in *to walk round the park* | *half past twelve* | *notwithstanding that*. The preposition *round* was originally an adjective, and the other two are in form indistinguishable from inflected parts of verbs, although in the case of *past* an arbitrary distinction of spelling has been made between it and *passed*. But although there is no formal isolation here—nothing in the form of these words to show they are grammatically different from the adjective *round* or the participle *passed* in *the time has passed quickly*—yet there is grammatical isolation, for it is impossible to regard *round* in *walk round the park* as an adjective, and *past* in *half-past twelve* is felt to be grammatically analogous to *half after twelve*, where there is no doubt of *after* being a genuine primary preposition. So also *off* in *it is a long way off* is an adverb, but in *the ship was anchored just off the coast* the words *off the coast* constitute a preposition-group just as much as *by the coast*; indeed *off* is now sometimes substituted for *of* in such constructions as *he bought it off a man in the street*. The logical difference between an adverb and a preposition is simply that the adverb can independently qualify another word, as in *quite ready*, *very well*, while a preposition can only do so indirectly by entering into a preposition-group. An adverb is, or may be, a full-word, a preposition can only be a connective form-word, although it can at the same time have a definite enough meaning of its own, as in *going to and from school*, where the prepositions have the same meaning as the adverbs in *to and fro*. If an adverb is put before a noun, as in *he is [illegible] a gentleman*, it approximates to an adjective, although in [illegible] construction we know it is not an adjective, because if it

were, it would come after the definite article, as in *he is a perfect gentleman;* hence in such a construction as *you are the very man I want* we cannot help regarding *very* as having been completely converted into an adjective. Hence also in *off the coast* we must regard *off* as being no longer an adverb but a preposition.

Besides general grammatical considerations, we have also in English a purely formal test to distinguish between adverbs and prepositions, that is, that the latter "govern" a pronoun in the objective case: *of me, with us, round him, past him, off them.*

If we trace the Modern English objective case back to Old English, we find that it is the result of blending together two old Aryan cases—the accusative and the dative. In Old English some prepositions govern the accusative only, some the dative, some both accusative and dative, some the genitive. In the older Aryan languages the prepositions govern a still greater variety of cases. When a preposition governs a variety of cases in an Aryan language, there is generally a difference of meaning, as in the old Aryan usage still preserved in Modern German by which *in* governs the accusative when motion is implied—that is in the meaning of our "into"—the dative when rest is implied. In Latin the accusative by itself is used to express the goal of motion, as in *domum* "(go) home," and "rest in" is often expressed simply by putting the noun in some disguised form of the original Aryan locative case, as in *domī* "in the house, at home," *tōtā urbe* "in the whole city," the addition of a preposition being obligatory in other parallel constructions just as much as in a modern language. It is not difficult therefore to infer that the Aryan prepositions were originally adverbs, which at first were adjuncts not to the noun but to the accompanying verb, so that such a Latin sentence as *in urbem contendit* originally meant "he in-marched to-the-city," the verb being, of course, intransitive. By degrees these old adverbs came to be more and more closely connected in thought with the inflected nouns they now served to define, till at last the original meaning

the cases were subordinated to those of the accompanying prepositions, and in some cases forgotten.

In the modern analytic languages such as French and English, the prepositions have encroached so much on the cases as to have come to be complete substitutes for them.

It was very different with the old pre-inflectional prepositions, which were exactly on a level with the present English prepositions in their combination with nouns and with those pronouns which do not distinguish an objective case—that is, they could be distinguished from adverbs or particles and other parts of speech only by their grammatical functions combined with a certain amount of isolation.

All prepositions must theoretically be referred back ultimately to full-words; that is, all prepositions were originally secondary.

In Chinese the words which serve as prepositions are generally phenomenon-words; thus the instrumental *with* is expressed by *i* "take," as in *sat jin i jin* "to kill a man with a sword," literally "kill man take sword," and in Modern Chinese "he was eaten by a tiger" is expressed by "suffer tiger eat was." Indeed, in Old Chinese we sometimes feel doubtful whether we ought not to regard our preposition as a verb; thus even the first sentence given above might be translated "having taken a sword he killed the man" without doing violence to the rules of grammar, but as the words do not naturally suggest such a literal translation, we are justified in regarding the construction as a prepositional one.

In Arabic the prepositions were originally nouns, which, in the inflectional period of the language, were isolated from the other nouns by being indeclinable. Thus "he distinguished between them" was originally expressed by "he distinguished the interstice of them," the original construction being of course liable to be obscured, as in *baina yadai-hi* "(he appeared) before him," literally "between two-hands-of-[illegible]"; *baina* is from the point of view of Old Arabic simply [illegible]ssilized accusative singular of the masculine noun *bainun*

"interstice, separation," itself a regularly formed verb-noun. Of course, it is by no means certain that all the Arabic prepositions were originally nouns; but the majority of them must have had that origin, for otherwise there would be no reason for the rule that all prepositions without exception govern the genitive. We see that although Arabic prepositions govern a case, they do so from a grammatical point of view which was totally different from that which prevailed in the Aryan languages.

The old primitive pre-inflectional prepositions of early forms of speech were of course used with much greater freedom and vagueness of function than those of inflectional languages. Even in Latin and German prepositions do not always precede their nouns, but appear occasionally as "post-positions." In that most ancient of languages, Sumerian, there is a well-defined class of post-positions, which may be regarded either as suffixed particles—enclitic prepositions—or as loosely joined-on inflections, into which it is evident that such post-positions might easily develope. Hence in such constructions as Latin *in urbe* it is conceivable that the same particle might appear twice over, as a worn-down suffix and as a kind of prefix.

Concord. In primitive language permanent attribute-words were naturally put in juxtaposition with the substance-word they qualified.

Many languages then found it natural and convenient to bring out more clearly the connection between head-word and adjunct-word by repeating the form-words or inflections of the former before or after the latter as well, the result being grammatical concord. Thus in *I bought these books at Mr. Smith's, the bookseller's*, the repetition of the genitive ending serves to show more clearly that *bookseller* is an adjunct to—stands in apposition to—*Mr. Smith's*, and the repetition of the plural inflection of *books* in the preceding *these* has the same function. But English has so few inflections left that it has lost most of the old Aryan concords. Thus there is no concord in *green trees, the trees became green*, where in Latin

green would repeat the inflections of *trees*, just as *these* does in English.

The concord in *they are*, where *they* and *are* are both in the plural number, arose in a different way. In Aryan a finite verb was capable of forming a complete sentence by itself, and the independent personal pronouns were added only when emphatic. By degrees, as the endings became more and more indistinct, the addition of the personal pronouns became obligatory, as in German, English, and French. These languages go so far as to add a pronoun to impersonal verbs, as in *it rains*, when the *it* is quite unmeaning, for the subject is already contained in the verb itself, the word *rain* by itself implying "water falls," or something of the sort.

Concord is in itself not only superfluous but unmeaning and illogical: the plural in *those men there* does not imply more than one pointing, nor does the idea of *green* in *green trees* admit of plurality; and although by the plural *are* in *they are* we may be said to imply more than one beings or existings, this follows from the *they*, and does not require to be emphasized over again. But nevertheless, concord, like many other illogical developments in language, has its uses. The free word-order in such a language as Latin is mainly the result of concord.

The highest development of concord is seen in Zulu and the other Bantu languages of South Africa. In Zulu every noun belongs to one of sixteen classes, each of which has movable prefixes, some having a singular, some a plural meaning, and when a noun is used in a sentence, all the following words having reference to it must begin with a prefix referring back to it. Thus the word for "man" being *umuntu*, plural *abantu*, the sentence "our handsome man appears, we love him" is expressed by

*umu*ntu *w*etu *umu*chle *u*yabonakala, si*m*tanda,

which, with the substitution of "men" for "man" becomes

*aba*ntu *b*etu *aba*chle *ba*yabonakala, si*ba*tanda.

These concords extend far beyond the limits of Aryan concord. Even the genitive enters into concord with its head-word; thus *inkosi* "chief"—familiar to readers of Rider Haggard—enters into such groups as *umuntu wenkosi* "the king's man," *abantu benkosi* "the king's men."

These repetitions, clumsy as they are, give great precision to the sentence, obviating the use of the still clumsier *the former, the latter,* or such evasions of grammatical inadequacy as *he (the plaintiff) said that he (the defendant) said that his (the plaintiff's) father said.*

Gender. Gender is the expression of sex-distinctions by means of grammatical forms. All languages have words for "man, male, woman, female," and some distinguish gender in the pronouns by means of such words as "he, she, it."

In English the grammatical category "masculine" generally agrees with the logical category "male" and so on, that is, English gender is *natural.* In Old English the Aryan *grammatical* gender was still preserved, as it still is in German also. By grammatical gender things are as often masculine and feminine as neuter, and even the names of living beings may be neuter. Of course, in those languages which have only the two personal genders all the names of things must be either masculine or feminine.

In Modern English we occasionally diverge from the principles of natural gender, as when a ship is called "she" and the sun is called "he." These newly-formed genders—for in old English *ship* was neuter and *sun* feminine—are the result of personification, the personification in the case of *sun* being due partly to the influence of the corresponding Latin and French words, which have the grammatical masculine gender.

It was for a long time assumed that the old Aryan grammatical genders were also the result of personification. But when we find in Old English and German *hand* made feminine and *finger* made masculine, while *foot* is masculine and *toe* feminine, it is difficult to explain the inconsistency, and even if *foot* and *toe* followed the analogy of *hand* and

finger, we should still fail to see how the distribution of the two genders could be justified by any assumptions of masculine denoting what is strong and big, feminine what is small and delicate, and so on; and if there ever were principles of personification or analogy with distinctions of sex, it is impossible to explain why they have been so completely lost in the commonest words.

It is now, indeed, generally agreed that grammatical gender in Aryan is not the result of personification, but has developed out of a different distinction which had originally nothing to do with distinctions of sex. It is believed, for instance, that the ending *-ā* owes its association with the female sex to its chance agreement with the Aryan root *mā* "mother" and other fortuitous associations. That there is nothing *à priori* improbable in this supposition is shown by the fact that in Tibetan, which otherwise does not distinguish gender—not even in the pronouns—the endings *-pa*, *-po* are used to denote male, and *-ma*, *-mo* to denote female beings, as in *bodpa* "Tibetan man," *rgjalpo* "king," *bodma* "Tibetan woman," *rgjalmo* "queen," it being clear from their other uses that they had originally nothing to do with distinctions of sex, which they seem to have come to denote only through their chance associations with the symbolic use of *p* for "father" and *m* for "mother."

The fact that in Greek, neuter plural nouns are regularly associated with verbs in the singular can only be explained on the assumption that the neuter plural was originally a collective or abstract noun: when a Greek said "all things changes," he must originally have meant "totality (*pánta*) changes," or something of the kind.

The fact that the Aryan neuter plural ending was in some instances at least originally the same as the feminine singular, as in Latin *bona*, leads inevitably to the further inference that feminine endings had originally the same collective or abstract meaning; which is confirmed by the fact that most abstract nouns are still feminine in the Aryan languages.

As regards the masculine, it has long been conjectured that

the ending *-s*, as in Latin *bonus*, *rēx*, was originally only a demonstrative, for its other function—that of pointing out the subject in a sentence—cannot be explained in any other way. It is at any rate evident that it had originally nothing to do with sex, for even such endings as Greek *-os*, Latin *-us* are occasionally feminine, as in the Latin *manus* "hand" with the same irrational gender as the Old English *hand*. The category masculine was therefore at first simply the opposite of what was implied by the category feminine—that is, it implied the individual as opposed to the collective or abstract. Masculine and feminine were at first the only genders in Aryan, as the neuter could not have been evolved till the two original categories had become associated with distinctions of sex; and, besides, the Aryan neuter shows every sign of being a secondary and late development. The Hamitic and Semitic languages have only the two personal genders, and in them grammatical gender is fully developed from the very beginning of our knowledge of them.

The grammatical marking off of nouns into two opposite categories is common in the languages of barbarous races, such as those of North America. This contrast assumes various forms: sometimes that of living and lifeless, sometimes that of human and animal, sometimes a vaguer one of higher and lower. Many American-Indian languages make this distinction of higher and lower, the higher including not only male human beings, but sometimes even weapons, fishing-nets and other valued implements; while the lower includes not only lifeless objects generally, but often also the women of the tribe. All this shows that the confusion between feminine and neuter in Aryan is not so improbable as it might at first sight appear, when once the idea of individuality had developed into that of "male human being" through such stages as "important, strong, vigorous," etc.

It may be added that although we cannot explain Aryan grammatical gender by personification, there may have been, and probably was, a good deal of personification during the period when the later sex-gender was represented by the

earlier stage of what we may call "class-gender," resembling what we see in the Bantu languages, where, although the division of the classes as a whole is not regulated by considerations of sex, some of the numerous classes are assigned, as one might expect, to such special sex-categories as 'man, woman, men.'

The mechanical distinctions of grammatical gender in such languages as the old Aryan cannot be kept up except by an elaborate system of inflection and concord. When inflections decay, the distinctions of gender are gradually lost. English has no grammatical gender at all. Dutch and Danish in their colloquial forms have only two genders, the common or personal and the neuter, although they still keep up the three genders in their pronouns, just as English does. Other Aryan languages, such as Lithuanian and the Romance languages, have given up the neuter, and so returned to the earlier distinction of masculine and feminine only, so that in these languages every lifeless thing must necessarily be seemingly personified.

Morphological Classification of Languages. Languages may be roughly classed according to their morphological character—that is, their grammatical structure in the widest sense—as isolating, agglutinative, inflectional, and incorporating.

Isolating languages show grammatical relations partly by the relative position or order of their full-words, partly by the use of particles. Old Chinese is mainly a "position-language," for it indicates the chief grammatical categories by word-order, and only uses grammatical particles when obliged to do so by considerations of clearness and to avoid ambiguity. Other isolating languages, such as Burmese, make a more extensive use of particles, which allows a freer word-order; these are "particle-languages" par excellence.

Isolating languages consist, therefore, of strings of formally independent words. Thus if English were made up entirely of sentences such as the following, it would be an isolating language: *you know many people | do you know it? | a ten*

pound note. Even if *do you* were contracted into (djuw), the isolating character would still remain, for such a change is a purely mechanical one, without any morphological function.

Although many languages of the isolating type, such as Malay, are polysyllabic, there is a distinct tendency in this class of languages to the monosyllabic form, which not only makes them shorter and more convenient, but also clearer in structure, through getting rid of the possibility of confounding the unaccented syllable of a full-word with a form-word, as when in English *tell her* (telə) is confounded with *teller*. We have a group of monosyllabic isolating languages in the East of Asia, comprising Chinese and its cognate Burmese together with the unrelated Siamese and Annamite or Cochin-Chinese and other languages.

Nearly all these languages are also tone-languages, that is, in them each word has a definite rising, falling, or compound tone associated with it, which is as much an integral part of it as any of its vowels or consonants; sō that words which would otherwise be identical are often distinguished by differences of tone. Thus in some negotiations between Englishmen and Chinese there was some excitement when the interpreter informed the Englishmen that the Chinese speaker had referred to England as "your country of devils," with the depreciating epithet usually applied to foreigners; it turned out that he had misheard as *kwéi kwok* "devil country," what was really pronounced *kwèi kwok* "honoured or distinguished country"—at least so the Chinese said.

In the ***agglutinative*** languages grammatical relations are shown by prefixing, suffixing, or infixing sounds and syllables which are no longer independent words, and yet are clearly distinguishable from the full-words they modify, and not inextricably blended with them as in inflection. If English, in addition to word-order and form-words, indicated grammatical relations only by such formations as *un-just-ly*, *care-less-ness*, it would be an agglutinative language.

There are various degrees of agglutination. Loosely

agglutinative languages, in which the agglutinative inflections and derivative elements still retain some of their original freedom of position—so that, for instance, the case suffixes of nouns can change places with those denoting the plural—and in which many of the agglutinative elements still show distinct etymological relations with independent words, are often hardly distinguishable from isolating languages.

Tibetan is an example of a half-monosyllabic agglutinative language, which has apparently developed out of an earlier isolating and purely monosyllabic stage, Tibetan being, indeed, closely cognate to Chinese and Burmese. This half-monosyllabic structure may be illustrated by supposing that in English we allowed such words as *man-ly*, *un-known*, *use-less-ly*, but not such combinations as *woman-ly* or *demi-god*.

Even in the most advanced agglutination, such as we see in Turkish *aya-lar* "officers," *ev-lär* "houses," *aya-lar-da* "in (the) officers," the suffixes, though they are as devoid of independent meaning as any Aryan inflections, have nothing in their form to distinguish them from independent words, and although not necessarily kept unchanged under all circumstances, they are clearly distinguishable from the word they modify.

When, on the other hand, the word and its inseparable modifiers are so closely connected that it becomes necessary to distinguish between abstract "stems" and actually existing independent words, agglutination becomes ***inflection***. Thus in modern Finnish—which is as good a type as any of a fully developed inflectional language—the word for "hand" has

Sing.	Nomin.	*käsi*	Plural.	Nomin.	*kädet*
	Genitive	*käden*		Gen.	*käsien*
	Partitive	*kättä*		Part.	*käsiä*
	Illative	*käteen*		Illative	*käsiin*
	Ablative	*kädeltä*		Ablative	*käsiltä*

Here the body of the word not only shows a variety of forms —*käs-*, *käd-*, *kät-* —but it is impossible to distinguish by

mere inspection between the original word and its inflections: we cannot form the plural nominative from the singular nominative, nor in the latter can we tell whether the final *-i* is an inflection or part of the original word.

It so happens that the nominative singular *käsi* has another form *käte-*, which, however, does not occur as an independent word, but only when followed by a possessive suffix, as in *käteni* "my hand," and *käsi* can easily be explained as a later form of *käte* in accordance with the general rule that *-e* in such words becomes *-i* which then changes a preceding *t* to *s*, the change of *t* to *d* in *käden*, *kädet*, etc., being also the necessary result of phonetic laws. **käte*, then, is the theoretical "stem" which nowhere exists as an independent word, although there can be no doubt of its having done so at a comparatively recent period. It is also to be observed that most of the endings, such as *-lta*, *-t*, are not only logically, but also formally incapable of standing alone, most of the oblique cases of the plural being distinguished from the corresponding ones of the singular solely by the insertion of *i*; and although most of the endings, such as *-lta*, are clearly recognizable in both numbers and through all the declensions, others are beginning to show variations and obscurations—thus the original partitive ending *-ta*, *-tä* has shrunk to *-a*, *-ä* in the plural.

We see here the germs of those changes and confusions which have resulted in what Gabelentz well calls "the defective-system" of inflections such as we see in the Aryan languages, as in the Latin verb, where in the first conjugation *-at* is indicative, *-et* subjunctive, while in the second *-et* is indicative, and in the third *-at* is subjunctive!

The most abstract form of inflection and the farthest removed from the agglutinative stage is that which we see in English forms such as *foot*, *feet*, *sing*, *sang*, *sung*. This form of inflection is most consistently and widely developed in the Semitic languages, where the "external inflections" of Finnish and the Aryan languages are largely replaced by vowel-change, transpositions of vowel and consonant, consonant-doubling, and other forms of "inner flection," as when in Arabic the

borrowed word *mīl* "mile" forms its plural *amyāl* on the analogy of native plurals, and *salim* "be safe" forms a causative *sallam* "deliver up," whence by perfectly regular changes the infinitive or verb-noun *t-aslīm* "surrender."

The important distinction between ***polysynthetic*** on the one hand and oligo- or mono-synthetic on the other runs through all agglutinative and inflectional languages. Many of the agglutinative languages are highly polysynthetic, that is, they allow an almost indefinite number of derivative or inflectional elements to be tacked on to one word, as when Turkish *sev* "to love" forms not only the simple infinitive *sevmek*, but also such monsters as *seviſdirilememek* "not to be able to be made to love one another."

The more abstractly grammatical Semitic languages on the other hand are almost monosynthetic: they have indeed such ample resources in the way of inner modification that they seldom have occasion to add more than one derivative element at a time, their free use of prefixes making it still more unnecessary to pile one suffix on another as is done in prefixless Turkish; in such a word as *m-uslim-at-un* "female believer," where *m-* is the mark of the participle, *-at* of the feminine, *-un* of the nominative, we reach the limits of polysynthetism in Arabic. From a Semitic point of view such formations as English *use-ful-ness*, Latin *com-pōn-er-ēt-ur* appear half agglutinative, and such inflectional forms as Sanskrit *pad-bhyas* "to feet" appear as downright agglutinations—which, indeed, they may very well be.

As regards polysynthetism, Finnish and Aryan are intermediate between the two extremes—they allow heaping of suffixes, but only within certain reasonable limits.

It is to be noted that "polysynthetic" is often used in the sense of "incorporating," to which we will now turn our attention.

If we define inflection as "agglutination run mad," we may regard ***incorporation*** as inflection run madder still: it is

the result of attempting to develope the verb into a complete sentence.

In a language whose personal verb-endings are distinct enough not to require the help of independent pronouns, an intransitive verb is often able to constitute a sentence by itself, as in the Latin *vēnī* "I have come," *pluit* "it rains"; and there are many languages of polysynthetic tendencies in which the inflections of a transitive verb necessarily include an inflectional pronominal element to indicate the object as well as the subject, so that transitive verbs are also capable of forming a complete sentence.

This is the beginning of incorporation, which is nowhere more logically carried out than in Mexican or Nahuatl, in which even nouns in the objective relations can be incorporated bodily into the verb. Thus from *ka* "eat" is formed not only *ni-k-ka* "I-it-eat," but also *ni-naka-ka* "I-meat-eat," in both of which forms it must be understood that all the prefixes are real agglutinative or inflectional elements, for the independent words for "I," "he or it," "meat," are *newatl, jewatl, nakatl* respectively; or rather, these verb-forms are compromises between composition, agglutination, and inflection, *naka-*, for instance, being evidently an older form which was perhaps originally an independent word, from which *nakatl* is a later formation; with which compare the origin of composition in Aryan (p. 41).

The more general way of expression in Mexican in such cases is *nikka in nakatl* "I-it-eat the meat," the principle being to begin with a generalized abstract sentence-equivalent, and then to specify details by tacking on complementary full-words standing in apposition to the pronominal inflections, very much as in such French constructions as *je l'ai vu votre frère.*

But Mexican goes further than this. It expresses "I am building a house for my son" similarly by "I-it-build my-son (with possessive prefix) a house," and to make it quite clear that the first complement is in the indirect object relation, the verb is put in what may be called "the datival mood" by the addition of the inflection *-lia*, which gives the

general sense of "doing for, or with reference to some one else."

If a transitive verb has not a definite object, an indefinite one must be included in the inflection of the verb; thus "I strike" must be expressed either by *nitewiteki* "I-someone-strike," or *nitlawiteki* "I-something-strike."

In some of the North American languages these principles are carried much further, so that whole sentences are conjugated as verbs in a much more complicated manner.

We have a solitary European example of an incorporating language in Basque, an isolated language still spoken in the North of Spain and South of France, whose inflectional resources are lavished on providing inflections to express all possible combinations of pronouns with verbs, such as *I-go-to-him, let-them-bring-her-to-us*, the pronominal elements of which are, of course, only clipped and disguised forms of independent pronouns.

There are many other minor criteria of morphological classification.

The most important of these is perhaps that of the position of the agglutinative or inflectional elements before or after the word or stem. In Turkish and the other Altaic languages, as also in Finnish, these are always postpositions, so that every word begins with the root, which always has the chief stress. The Bantu languages of South Africa, on the other hand, favour prefixes: they may be described as prefix-agglutinative concord languages. The Semitic languages favour prefixes and postpositions about equally. The Aryan languages are mainly postpositional with occasional use of prefixes, most of which, however, are of later origin.

An impartial study of the morphological development of languages makes it tolerably certain that all inflectional languages must once have been isolating and have passed through the agglutinative stage.

When a language loses its inflectional character, and indicates grammatical relations by means of particles, such as

the prepositions which play so prominent a part in English grammar, and by auxiliary verbs, etc., it is said to become ***analytical,*** in as much as it "analyses" its older inflected words into combinations of independent words. But if we examine even such thorough-going analytical languages as English and French, we see that this process of analysis is not carried out with any consistency. In the first place, many grammatical categories are lost more or less completely without any attempt being made to supply their place by analytical combinations. Thus both English and French have allowed the accusative inflection of nouns to fall into complete disuse, and have not supplied the want by the use of a preposition, as Spanish does with nouns denoting persons in such constructions as *venció al enemigo*, literally, "he-conquered to-the-enemy." Again, many of the new formations of French and the other Romance languages have completely lost their analytical character by becoming secondary inflections, such as the futures and conditionals of the verbs (p. 44).

Lastly, even the most analytical languages preserve some at least of the old inflections. Thus English has only one case-inflection of nouns, and French has none, but, on the other hand, the French verb is still fairly rich in inflections, especially if we include the secondary ones, which we have every right to do in comparing the French inflectional system with that of Latin, for some of the Latin inflections themselves are certainly of secondary origin. The Italian verb-inflections are still fuller through not being worn away by phonetic decay, and such inflections as these are quite as distinct as anything in Latin:—

Indic. Present	Peterite	Future
párlo	*parlai*	*parlero*
parli	*parlasti*	*parlerai*
parla	*parló*	*parlera*
parliamo	*parlammo*	*parleremo*
parlate	*parlaste*	*parlerete*
parlano	*parlarono*	*parleranno*

These inflections are certainly different in detail from the original Latin ones, but nevertheless they show no decay whatever of the inflectional principle: every person is perfectly distinguished without the help of any independent pronouns, and more than this cannot be expected from any inflectional system.

Even the English inflections, few as their number is, are an integral and essential part of the language. The fact that we can form many English sentences without any inflections at all does not justify us in classing English among the isolating languages, as long as it still continues to inflect the preterites of hundreds of verbs by vowel-change either alone (*sing, sang*) or in combination with external inflection (*tell, told*). The complete distinction of the persons in the singular *am, are, is* is quite exceptional, but the excessive frequency of these forms gives them great morphological weight. We can imagine our genitive inflection being supplanted by the preposition *of*, as has actually been the case in spoken Dutch, but we cannot imagine English losing its plural inflection of nouns except by a sudden and complete upheaval of the whole morphological structure of the language. In short, there is no reason to suppose that English will ever become uninflectional by any process of normal inner development, and there seems good reason for extending this assumption to other languages also; so that we cannot but accept Sayce's dictum, "once inflectional, always inflectional."

Hence, while English appears as almost uninflectional when compared with such a language as Latin, it appears in the opposite light when compared with an isolating language such as Chinese. One important result of what we may call "inherited inflectional instincts" is that in English we still proceed from the special to the general, while Chinese does exactly the reverse. Thus in English we are compelled by the structure of the language to put every noun either in the singular or the plural, so that when we have to express such an idea as that of man generally or man in the abstract, we fluctuate helplessly between singular and plural—*man is . . ,*

men are . . , the lion is . . , lions are . . We are equally helpless when we have to make a statement without defining its exact relation to the time when we are speaking; thus in such a sentence as *the ancients did not know that Africa . . an island,* we hesitate whether to use *was* or *is*. In Chinese, on the other hand, in which the number of a noun or the tense of a verb is never expressed when it can be gathered with certainty from the context—which they can in the majority of instances—such difficulties can never arise: in Chinese we should simply say *man rational, Africa island,* and should only add the necessary particles if we wished expressly to emphasize the ideas of plurality, past tense, etc. This deep-seated difference between the English and the Chinese linguistic mind is clearly shown in translating into Chinese such a statement as that some one was born in a certain street in a certain town in a certain province in a certain country; here Chinese would entirely reverse the order, beginning with the country, and descending progressively from generals to particulars.

These considerations are enough to refute the plausible hypothesis that Chinese may, after all, only be an analytical language which has carried out the revolt against inflection in a more radical manner than English.

But, on the other hand, there can be little doubt that the old idea of Chinese having preserved unchanged the earliest type of human speech is as false. On the contrary, there is clear proof in the structure of the language itself that it was once polysyllabic, and that its words were to a great extent formed by the addition of agglutinative elements, some of which may have had the function of cases, etc. A comparison with the cognate languages confirms these conclusions, and also shows that the Chinese word-order is not original, and that the language must consequently have formerly expressed grammatical relations by other means.

We see then that while a language is still in the loosely agglutinative stage, it has two opposite possibilities of development open to it. It may develope its agglutinative elements

into a complex system of inflection, which may take the form of cumbrous polysynthetism or incorporation; or, on the other hand, it may shake off its loose agglutinations, and let them fall back into their original state of independent particles; and when it has once learnt to dispense with superfluities, it may carry out the principle of relying on the context to that extreme of elliptical conciseness and concentrated force of expression which excites our admiration in Old Chinese.

CHAPTER V

Changes in Language

Periods. The first general effect of change in a language is that there comes a time when the earliest written documents of that language become obscure, and at last unintelligible, so that we are obliged to admit certain more or less definite periods in the language, such as Old English, Middle English, and Modern English, each of such periods admitting further subdivisions within itself.

Development of Dialects. The unity of a language can be kept up only by uniform intercourse between all its speakers; and if this is wanting, the language begins to split up into dialects.

If this development of differences of dialect is simply the result of the community being spread over too wide a tract of uniform country, the result will be an infinite number of dialects, each differing but slightly from the nearest one, but differing in course of time very considerably from those furthest away from it. But there will be no definite lines of division, and the dialects will shade off insensibly one into another; so that any division, say, into a Northern, Central, and a Southern group of dialects, will necessarily be arbitrary in the case of those dialects which are exactly intermediate between the most marked Northern and Central or Central and Southern dialects. Even if we compare two languages, we find such dialects as some of the North Italian, which are exactly half-way between French and Italian. This overlapping of dialects is increased by the fact that any one of the numerous changes which cause differences of dialect may have different boundaries from those

of the other changes. Thus a North-Central dialect may have a certain consonant change in common with the Northern group, or some of its sub-dialects, while in other respects following the changes of the other Central dialects.

If a dialect or group of dialects is sharply separated from the other dialects or groups by mountains, wide rivers, or other natural boundaries, or by differences of government or religion, it will correspondingly diverge from all the others and develope features of its own.

But when civilization brings with it the necessity of centralization, it becomes necessary to use one special dialect as a means of general communication throughout the country, especially if some of the dialects have become mutually unintelligible. If centralization goes on long enough, this common or standard dialect, after being influenced more or less by the local dialects, begins to supplant them, first in the speech of the educated, and then in that of the lower classes, till at last nothing remains of the original dialect but some peculiarities of speech and intonation, which last seems to survive longest. Thus it is that London English has not only become the educated speech of the whole kingdom, but has almost completely absorbed the rustic dialects of the home counties.

Such a standard or non-local dialect is, of course, itself liable to split into local dialects again. Thus Italian has its local dialects occupying the areas of the old Italian dialects—or rather languages—cognate with Latin, although they are not in any way descended from the latter, which had indeed become extinct long before Latin began to split up into dialects. The old Laconian dialect of Greek, on the other hand, still survives, while most of the other Greek dialects are mere descendants of the Common Late Greek or Late Attic of the New Testament.

As no language can be absolutely uniform for any length of time over any large area, such a change as that of Old into Middle English really means the change of one group of dialects into another group of dialects. Hence the convenience

of taking some one standard dialect as the representative of each period, as when we base the chronology of our division of the periods of English on the changes in the inflectional vowels of the Southern dialect: when we make the loss of unstressed *e* in the fifteenth century the mark of the end of the Middle and the beginning of the Modern period, as in *sun* = Middle English *sunne*, this applies only to the Southern dialect, for in the Northern dialect the "final *e*" was completely dropped at least three centuries earlier.

Strata: Literary and Colloquial. In most languages there are "strata" or dialects which are non-local in the sense of never having had a definite locality, and which correspond to distinctions of class, culture, or occupation in the speakers of the language, the most important of these dialects being the result of the contrast of educated and vulgar, literary and colloquial speech. The distinction between educated or refined and vulgar is often a very fluctuating one; thus in English the present vulgarism *sparrow-grass* for *asparagus*, and such pronunciations as (forərd, piktər) for *forward*, *picture*, were considered perfectly correct two centuries ago.

As regards the distinction between literary and colloquial, it is important to observe that the literary peculiarities of any given period of a language are, for the most part, simply fossilized colloquialisms of an earlier period; thus the poetical and liturgical *thou hast* instead of *you have* was still a familiar colloquialism in the last century—so familiar, indeed, that it became vulgar and was dropped in polite speech, but was kept up in literature, mainly through the influence of the liturgical dialect of the Bible and Prayer-book.

It is now generally admitted that the only stratum of language which is natural in its development is the spoken language, of which the literary language is a more or less arbitrary and conscious modification, besides being, as already remarked, a mixture of colloquialisms of different periods, and therefore more or less of an anachronism. It is now an axiom of scientific philology that the real life of language is in many respects more clearly seen and better studied in dialects and

colloquial forms of speech than in highly developed literary languages.

But although some of the latter—such as Homeric Greek and Spenserian English—are so mixed and arbitrary in their composition as to be simply monstrosities, we must be careful not to exaggerate the artificiality of literary dialects. The most far-fetched literary constructions and expressions are seldom arbitrary: they are generally founded on something in the spoken language of some period or other. The long compounds of Sanscrit literature are simply exaggerations of the natural formations of the spoken language.

The importance of dialects may, on the other hand, be easily over-estimated, especially by half-taught enthusiasts, who, for instance, pick out a few conservative features in Lowland Scotch, and persuade themselves that it is the pure Anglian dialect of Old English preserved unchanged, in spite of the evident fact that it has diverged quite as much from Old English as the standard dialect has. Most of the present English dialects are so isolated in their development and so given over to disintegrating influences as to be, on the whole, less conservative than and generally inferior to the standard dialect. They throw little light on the development of English, which is more profitably dealt with by a combined study of the literary documents and the educated colloquial speech of each period as far as it is accessible to us.

Wherever the literary language is strongly developed, we must be prepared to find numerous traces of its influence on the spoken language. It is important to observe that these literary importations, though conscious artificialities in one generation, may become natural and unconscious in another. Thus English is full of historically incorrect pronunciations which have resulted from the attempt to follow spellings based on false etymologies and analogies, as when we pronounce *author* with (þ) instead of (t). Our dialects swarm with mispronunciations of learned words, which make up a large proportion of their special vocabularies.

It is necessary to observe that the distinction between

literary and colloquial does not necessarily imply the existence of a written literature. The archaic language of the oldest Sanskrit hymns was faithfully preserved by oral tradition, together with the rules of grammar and pronunciation which alone made that faithful preservation possible, long before they were committed to writing. The ancient Hindoos, indeed, put more trust in oral tradition than in any manuscript authority. Even unlettered savages, such as the natives of the Andaman islands, have a traditional language employed only in poetry which differs considerably from the language of everyday life.

Families of Languages. The difference between a group of dialects and a group or family of cognate languages is one of degree only, the most marked contrast being between a group of mutually intelligible dialects only one of which is the expression of national life, and a group of connected but mutually unintelligible languages, each of which is the expression of a distinct national life, culture, and literature. We can thus answer the question, Dialect or language? either from a purely linguistic or a political point of view: from the latter point of view such languages as Spanish and Portuguese, Norwegian and Swedish, are unquestionably distinct languages, although linguistically speaking they are scarcely more than dialects of each other. In fact, the Galician dialect, though politically within Spain, is purely Portuguese, so that if it is a dialect of Spanish, Portuguese must be one also. Dialects frequently overlap political divisions in this way. Thus the Catalan dialect in Spain is Provençal, not Spanish, while the Provençal dialects, though for the most part politically French, are almost as distinct from French as French from Italian.

Mixed Languages. Whenever two dialects or languages come in contact, there is sure to be influence either on one side only or on both, the influence being generally much stronger on one side. The standard dialect may swallow up the local ones, but it is always liable to be influenced by them: every literary language is the result of mixture of dialects to some extent.

Families of languages do not admit "a standard language," but nevertheless those languages of a family which have the greatest political, literary or intellectual weight combined with the largest population do practically exercise much the same influence as a standard dialect, especially if they are in a central position. Thus we find first Low and then High German exercising a strong influence on the Scandinavian languages: half the vocabulary of Danish is High and Low German, the latter being mainly the result of the supremacy of the Hanse-towns in the Middle Ages. The strength of this influence is strikingly shown in the Danish *pebersvend* "bachelor," literally "pepper-boy," which was originally a nickname applied to the unmarried clerks of the Hanse firms.

Even when the two languages are so distinct as to show no outward sign of being cognate, there may still be influence, which, indeed, depends mainly on the intimacy of the intercourse between the speakers of the two languages.

When two races are absolutely mixed by conquest or immigration, the influence is of course still stronger, but the language which is most strongly influenced through being at a disadvantage in any way generally becomes extinct, as when the Scandinavian invaders of Normandy, and the Scandinavian founders of the Russian monarchy became respectively Frenchmen and Russians in speech, the former again losing their adopted language in England. We see from these examples that the influence of the lost language on the surviving one may vary indefinitely in degree. The small body of Scandinavians in Russia have left practically no linguistic traces behind them, and the vast hordes of Mongols who afterwards held Russia for many centuries have had but a superficial influence on the language, while the Normans, through learning to speak a language which was the great vehicle of Western culture, have had a great and permanent effect on English.

The great problem of comparative philology is to distinguish between those resemblances which are the result of

common parentage and those which are the result of influence, or what is called "borrowing." The whole science of comparative philology is based on the assumption that, as a general rule, one language does not adopt the morphological structure of another—it does not adopt strange inflections or methods of word-formation or syntax, while the vocabulary and the idioms may be borrowed to any extent.

These general principles must not be pressed too hard or carried out too mechanically. Thus the wholesale adoption of Latin words in English has led to the adoption of many Latin plurals, but there are no signs of such plural endings as *-i* spreading to words of native origin. The Latin structure of sentences, too, has had some influence on the literary dialect of English as of all the European languages; but these influences have hardly affected the spoken language; and, indeed, even the literary language has now got rid of most of the Latinisms of the last century.

Hence it is that such a mixed language as Pigeon-English, though the bulk of its vocabulary is mis-pronounced English, is in structure purely Chinese, with hardly a trace of English inflections, or even of English syntax.

Nevertheless, there are several remarkable instances where a number of languages, apparently genealogically distinct, show striking resemblances not only in sounds, but also in general structure. Thus in the Caucasus we have a number of unrelated languages—some of which, such as Armenian and Ossetian, are of Aryan origin—all having rare and remarkable phonetic peculiarities in common. In Eastern Asia we find Chinese, Tibetan, and Burmese agreeing not only in having true aspirates, but also in aspirating hiss-consonants in such combinations as (ts, tʃ), which they often make into (tsh, tʃh), and sharing these marked peculiarities together with monosyllabic structure and word-intonation—which last is wanting only in Tibetan—with the neighbouring Siamese and Annamite, with which they are not in any way related, although they have strongly influenced their vocabulary, especially that of Siamese. It is remarkable to observe that the complexity of the tone-

distinctions increases as we advance south-eastwards: Tibetan has no word-tones, Burmese has only two, Siamese has five, North Chinese four, while in South Chinese (Cantonese) and Annamite the number of tones reaches its maximum. These facts seem to show that the borrowing, if any, is on the side of Burmese and Chinese, but against this we must set the unexpected fact that Mŏn and Cambodgian, which are apparently the real aboriginal languages of Further India, and which are similar in structure to, though unconnected with Annamite, have no word-tones at all. It seems, then, that the distinction of word-tones must have developed and spread out from some small centre in South-Eastern Asia without any regard to linguistic relationship.

This kind of influence is no doubt in some cases more negative than positive—that is, it merely means that if two neighbouring languages have certain features in common, their juxtaposition helps each to preserve what might perhaps otherwise be lost.

Rapidity of change. When we see how quickly languages change, and then find comparative philologists making far-reaching inferences about the structure of some hypothetical parent language thousands of years ago from a form preserved in some illiterate dialect of the present day, we are apt to feel distrust of results obtained in such a way.

But it must be remembered that rapidity of change is always one-sided, and that innovations in one part of the structure of a language are always compensated by increased conservatism in other respects; for without this conservative reaction language would speedily become unfit to communicate ideas.

A statement has often been repeated that missionaries among some tribe in Central America found that the language changed so rapidly that the grammar of it made by a predecessor only a generation before was already quite antiquated and useless. Those who quote this as an instance of the supposed rapidity of change in the languages of uncivilized

populations fail to see that the story confutes itself; for if the language changed so completely in a single generation, the children, parents, and grandparents in a family would be mutually unintelligible, and traditional language would therefore be useless, and would have to be replaced by gesture-language. It is also to be observed that the only certain fact is that the grammar was useless—all the rest is inference from this fact; and this suggests the question whether the grammar was not quite as useless when it was first composed.

There is, indeed, quite as strong testimony the other way, showing that uncivilized languages can, under certain circumstances, be just as conservative as literary languages. F. Müller, speaking of the language of a very primitive race, says: "The Eskimo language is of great importance for the history of language, because it offers us a sure chronological standard for estimating the phonetic changes of uncivilized languages. As Kleinschmidt remarks, 'The Eskimos in Labrador have been separated for at least a thousand years from the Greenlanders, and yet the languages of the two differ less than, for example, Danish and Swedish or Dutch and Hamburg Low-German. The inhabitants of Boothia Felix, with whom Captain John Ross in his second Polar expedition passed three years, understood a good deal of what he read to them out of a Greenland book, and would no doubt have understood more of it if they had heard it from a Greenlander, and perhaps all of it, if a Greenlander had talked to them about matters of everyday life.'"

There is no evidence to show that unwritten languages necessarily change quicker than others. As already remarked, a language may be a literary without being a written language. But the important fact to realize is that however faithfully an archaic stage of a language may be handed down by oral tradition or by writing, this does not prevent the spoken language from changing. While the Alexandrian grammarians were busily employed in fixing and recording a standard which, as they fondly imagined, would make classical Attic Greek the universal language of culture for all times, the mongrel popu-

lation of Byzantium was unconsciously evolving the present Romaic, which differs more from the Alexandrian Greek than Italian does from the language of Cicero. So also in England the fixity of our orthography during the last few centuries seems to have promoted rather than hindered the rapid changes in our vowels.

Other causes must be sought for linguistic conservatism. One of the most important of these is stability of external circumstances and conservatism of life and habits in the speakers of the language. The Eskimos have preserved their language almost unchanged because their life is in the main still that of the stone-age inhabitants of Europe, of whom they seem to be the last surviving representatives: they have had few new ideas to find expression for, and have had but few strangers among them to corrupt the purity of their speech. So also it has often been a subject of wonder that the uncultured Lithuanian peasant should speak a language which, although not quite so identical with Sanskrit as some would have us believe, is certainly much nearer to it than the Neo-Sanskrit dialects of the intelligent and cultivated Hindoo. But it is this very want of culture and contact with the great world of ideas that has enabled the Lithuanians to preserve with such comparative fidelity a language built up of unstable inflections, although, as we shall see, other factors have contributed to this result. Where stability of circumstances and life is wanting, civilized and uncivilized languages alike change rapidly, as we see in the islands of the Pacific. With most civilized languages the external conditions are intermediate between the two extremes: the disturbing influences of increasing complexity of life are balanced by the influence of tradition and organization. Hence it is that the standard dialect of a civilized language is generally on the whole not less conservative than any one of the local dialects.

All languages, too, have periods of conservatism, so that a language which is changing rapidly at the present time may turn out to be as conservative as another which is apparently stationary, if both are compared with their common parent

language, simply because the one which is now stationary may have had earlier periods of change and innovation.

Arabic is a striking instance of a language which changes comparatively little through natural stability of structure. In Arabic, as in the other Semitic languages, most of the roots are "triliteral"—that is, they consist of three consonants; and much of the grammatical work that in other languages is effected by means of derivative syllables and composition is in Semitic done by inner vowel-change and transposition of vowels and consonants, the consonants—with certain definite exceptions—remaining unchanged through all the transformations of a root. Thus in Arabic from *gild* "skin" is formed the denominative verb *gallad* "to bind (a book)," whence again by equally regular changes is formed the verb-noun *taglīd* "binding," just as *taslīm* "surrender," is formed from *sallam* (p. 65), so that the same root can be used twice over in the collocation *taglīd gild* "leather binding," disguised, and yet transparently visible. It is evident that in such a language there is but little temptation or occasion to shorten words by dropping prefixes or suffixes; the only elements that could, and were, got rid of in this way were the case-inflectional vowels, whose loss has not altered the general character of the language. Hence also the complex and irregular "inner plurals" have been generally preserved because of their shortness and phonetic convenience, the plural in some instances being shorter than the singular, as in *mudun* "cities," singular *madīnat*. In short, such a language must be taken as it is, or else let alone—"pigeon Arabic" would be an impossibility. Hence it is that even Egyptian Arabic is still very conservative, while the language of the Bedaween of Arabia, which has the further advantage of unchanged habits of life and freedom from foreign influence on its speakers, is almost more archaic than the Babylonian Semitic of six thousand years ago, which was exposed to strong foreign influence from the beginning. Parent Aryan with its half worn-out inflections is an example of a naturally unstable language; so that although it is a lan-

guage of probably later development than Semitic, its present descendants on the whole show a much greater departure from the original structure.

As regards the relative rapidity of change in a group of dialects or cognate languages, the chief cause of change is isolation from the other languages of the group: in a compact body of languages, the greater the distance from the centre, the greater the changes, while, on the other hand, the most central dialect or language is generally the most conservative. Thus among the Semitic languages the Egyptian dialect of Arabic is the most central, having Syrian Arabic on one side and the North African dialects of Arabic on the other, and the conservative Bedaween Arabic all round it; hence in spite of the strong foreign influences to which it has been exposed it is still remarkably conservative, especially in its sounds. The Bedaween dialects of Arabia are still more so because of the extreme conservatism of their life and the absence of foreign influence, all the adjoining countries being also inhabited by Arabic-speaking populations. Lithuanian is also a central language; it has the great advantage of having the comparatively archaic Slavonic languages on one side and its own near cognate Lettish on the other, this language acting as a bulwark against German influence, so that Lithuanian is surrounded on all sides by kindred languages of a fairly conservative character. At the present time the most central of the Germanic languages is the High German of North Germany, which is accordingly more archaic in its inflections than either Dutch and Low German on the North or the Upper German dialects of Switzerland and the South.

It is to be observed that the same conservative influences may be exercised, though probably in a less degree, by languages which are either not cognate or only remotely so. It seems at least probable that both Slavonic and Lithuanian owe some of their preservation of the unstable Aryan inflections—Russian, for instance, has still eight cases—to the example of Finnish with its complicated and yet symmetrical inflectional system which gives the noun fifteen cases.

Distance from the centre involves not only absence of control by cognates but also liability to foreign influence. This last, however, is probably only a secondary cause of the remarkably unconservative character of English and French. These languages are the most remote from the original centres of their respective groups, and both have developed morphological characteristics which are far in advance of anything in their immediate cognates: we need only call to mind the monosyllabic tendencies of both languages and their great development of homonyms, which seems almost to call for the distinctions of word-tones, the English loss of grammatical gender, the almost complete loss of the plural ending *-s* in spoken French, and its peculiar periphrastic partitive case (*du pain*) which—against all Aryan analogy—is used almost in the subject relation (*voilà du pain*), its use of the old adverb *en* (from Latin *inde*) as a pronoun, and so on.

We have in Modern Icelandic an instructive instance of the conflict between the two factors of conservatism in life and absence of foreign influence on the one hand and complete isolation from direct contact with cognate languages on the other. The result is that the language instead of developing in an analytical direction similar to that of its immediate cognates, Norwegian, Danish and Swedish, has preserved its old inflectional system absolutely unimpaired on the whole although with frequent modifications of detail: in Modern as in Old Icelandic the definite article and the pronoun "they" still sharply distinguish all three genders, and when "they" refers to a man and a woman together, or even to two things one of which is grammatically masculine, the other grammatically feminine, the pronoun is still put in the neuter plural. In the other Scandinavian languages, on the other hand, the noun-inflections are almost as much levelled as in English, and even grammatical gender is only partially preserved, these languages being as much inferior to modern German in inflectional conservatism as Icelandic is superior to it. But the sounds of Modern Icelandic have undergone the most fantastic changes through the want of control by

cognate languages. Thus *ā* has become (au), and *au* itself has become (œi), the front-round *y* has been levelled under *i*, and so on, while in the other Scandinavian languages it has been kept distinct from *i*, and *ā* has merely been rounded into a variety of (ɔɔ) without any further exaggeration. Icelandic, in fact, as regards its sounds behaves like an adult whose speech by deafness has been isolated from the control of his fellow-speakers. It is curious to observe that the island-Portuguese of the Azores shows a curious change of long vowels into diphthongs equally opposed to the tendencies of the continental mother-language. Lastly, some of the most phonetically degraded and most morphologically simplified forms of speech are found among the scattered island populations of the Pacific, where the factors of unsettled life, continual migration and isolation all work together.

Changes in Morphological Structure. The question of change of morphological structure has already been discussed (p. 67). As we have seen, we have to distinguish between change and substitution of structure: Pigeon English is not a natural development of English, but a recasting of the English vocabulary in a new and foreign mould. So also with the various forms of English and other European languages spoken by negroes, although here the new mould is more that of an alien mind than of an alien language. Such languages as Yiddish—the German spoken by Jews—so ably investigated by Wiener, shows foreign influence mainly in the vocabulary, its effect on the structure being chiefly the negative one of getting rid of useless traditional complexities.

The comparative philologist must realize that any one of the ancient languages he has to deal with—however classical and elaborately literary it may be in its extant form—may have been originally a "substitution-dialect" like Pigeon English. It may even have been a "selection-language" like the Chinook jargon of the West Coast of North America, which is a mixture of English and various native vocabularies with a large number of newly formed imitative, interjectional and symbolic roots. There is this simple difference between

the two that a selection-language in the presumably rare cases in which it is not swallowed up by one of the languages of which it is made up developes into a language with so strong an individuality of its own that it cannot be regarded as a dialect, and in time it would probably lose all apparent connection with its sources. But if a form of Negro-English developed into a traditional independent form of speech, we might have an absolutely uninflectional form of speech, of evident English origin from the point of view of comparative philology, which, if we had no means of tracing back its history continuously, we might regard as the result of normal inner development.

Antiquity of Language. The oldest written documents of human speech take us back about 10,000 years. But civilization is certainly far older than 8000 B.C., and the invention of writing is certainly older too—how much older we cannot tell. It is still more hopeless to inquire into the age of language itself—that is, fully developed traditional language. The question is of especial importance in its bearing on the great problem of the descent of all languages from one common primeval language or from a number of independently evolved parent languages.

The abandonment of the old idea that the supposed language of Paradise—Hebrew—was this primeval language led to a reaction against such *à priori* assumptions, and philologists, like botanists and zoologists, began to take a pride in setting up as many species—that is, independent families of languages—as possible. But increased knowledge, and the more systematic comparisons thus made possible seem now to be bringing us gradually up to far-reaching combinations which will greatly reduce the number of originally distinct families, so that no cautious investigator would now venture to deny dogmatically the possibility of all languages having a common origin, though he would always be able to make certain reservations in favour not only of Volapük but of other languages which we will consider hereafter.

It is evident that our prospects of finding our way back to

such a universal parent-language depend greatly on the length of time that has elapsed since the first evolution of language. It is also clear that the greater the age we assign to extant languages, the greater the chance of their having a common origin in spite of their want of similarity; so that the greater the possibility of such a common origin the more difficult becomes the task of recovering the primeval language.

There is no need to dwell on the influence of language as a factor in civilization. It is indeed so self-evident that there is a danger of exaggerating it, and forgetting that it is by no means an indispensable factor. It is clear that the evolution of language itself postulates a considerable intellectual and social development; and if civilization had thus to begin without the help of language—that is, fully developed traditional speech-language—there is no reason why it should not have advanced a long way without it: there is no reason why the hypothetical *homo alalus* "speechless man" should not have developed the art of picture-writing side by side with that of building houses and even temples. There is therefore the possibility of the evolution of language being a comparatively recent event. If so, we must apparently, for several self-evident reasons, content ourselves with limiting the number of original parent-languages as much as possible, and give up the search for a common primeval language.

One obvious reservation as regards the original unity of human speech must be made at once. The large number of new roots that have been created in all languages must at once be subtracted from the common vocabulary of the languages of earth: it is no use trying to trace back such words as *buzz* and *cuckoo* to a primitive Hebrew or any other primeval root. It is this constant possibility of independent re-creation which makes polyglot comparisons uncertain: the agreement of Chinese *fu' mu'* with English *father and mother* does not prove much as regards either the affinities of the two languages or the existence of similar words in any possible parent-language.

We have, lastly, the possibility of the formation of totally

new languages. If roots can be created at any period, what difficulty is there in assuming the wholesale creation of a body of roots sufficient to form the foundation of a whole vocabulary? The Chinook jargon, of which we have already spoken, is in part such a new language. We have only to go a little further, and suppose two or three children speaking mutually unintelligible languages—one of two perhaps being a slave of another tribe—lost in the forest, and forced to communicate by gesture till they spontaneously developed a language of their own, and then becoming the parents of a tribe. Even in civilized communities children left to themselves sometimes evolve languages unintelligible to the rest of the world. It is true that in these cases part at least of the vocabulary consists of nursery words distorted out of recognition, but the result is practically a language which cannot be regarded as descended from that of the children's parents.

We have, I think, an actual specimen of a new-formed language—whether wholly or only partly new—in that of the Botocudos of Brazil. Although the native languages of America do not all show the elaborate polysynthetic and incorporating structure of Eskimo, Algonquin, Mexican, Quichua, etc., most of them are by no means primitive in structure, and show signs of having had a long history behind them. It is quite otherwise with Botocudo. Our knowledge of this curious language is unfortunately very imperfect, but the following details, taken from the supplement to F. Müller's *Grundriss*, will give an idea of its structure—or rather want of structure—about which Müller remarks: "This peculiar idiom of the New World, which seems to have no cognates, belongs to the isolating languages with incipient agglutination, and is characterized by a simple undeveloped grammatical structure which differs completely from the ordinary type of American languages. There is no formal distinction between noun and verb; both are entirely undefined. Adjuncts generally precede their headwords, except that the attribute generally follows its head-

word. The attribute-relation is not distinguished from the predicate-relation. The verb is not defined as to time, and does not even seem to require to have past time marked by adverbs; the future alone is marked by the word 'to-morrow' when necessary. The system of numeration is undeveloped, and seems to consist of names of fingers." It is interesting to observe that this primitive language has a considerable number of elementary sounds, including long and short and nasalized vowels, back and front as well as point and lip nasals (ŋ, ñ, n, m), and distinguishes voice and breath stops. Its chief means of grammatical expression are word-order, the use of original nouns as prepositions, and the addition of such words as "many" to express the plural. Its roots are polysyllabic as well as monosyllabic, although some of the former appear to be compounds, composition and repetition being the chief means of forming new words. There is no formal mark of composition, which is therefore generally indistinguishable from mere word-grouping. The extraordinary clumsiness of the groups by which the most primitive ideas are often expressed serves to strengthen the impression that the language makes of being a late formation. Thus an ox is called "hoof split big," that is, the big animal with the split hoof, a sheep "hoof split little," such word-groups being by no means confined to the expression of ideas which may have been originally foreign to the speakers: thus "eyelid" is called "eye hole skin," "beardless" is expressed by "face hair not." There is, at first sight, nothing in the structure of this language to oblige us to believe that it is more than a few centuries old; and there may be other examples among savage languages. But a detailed etymological comparison with the neighbouring languages would be necessary before expressing a definite opinion. As we see, F. Müller regards it as an isolated language.

General Results of Change. As already remarked, all languages and all periods of them are liable to a variety of changes. The meanings of words, word-groups, sentences, and parts of words (inflections, derivative syllables, etc.) are

liable to change, because these meanings are generally more or less vague, and we are always either narrowing them—as when the Old English genitive is in modern English restricted more and more to its possessive meaning—or extending them, extension by metaphor and transference of meaning being the main source of expressions for new ideas, as in the word *source* itself.

All changes in the relations between words must be either in the direction of convergence or divergence. If convergent changes are carried far enough, they result in the complete levelling of distinctions. Phonetic levelling results in homonyms, such as *a bear, to bear;* convergent changes of meaning end in producing synonyms, such as *begin, commence.* Divergent changes also create new forms in the shape of doublets, such as *of, off.*

Grammatical irregularities are mainly the result either of purely phonetic changes—as in the preterite *kept* from *keep*—or of convergent changes of meaning—as in *go, went,* where *wend* has become identical in meaning with *go*—or of a combination of both.

Control of Change. Although logical considerations cannot alter the direction of changes, they still have a considerable control over them. Indeed, every language at any given period is the result of an incessant struggle between the tendency to change and the logical effort to get rid of the resulting ambiguities and complexities. If we consider that the initial consonant-mutations of Welsh—by which, for instance, *tad* "father" becomes *dad* in the combination *ei dad* "his father" and *thad* in the combination *ei thad* "her father"—the vowel-mutation or umlaut of the Germanic languages, the liaisons of Modern French, and the many other similar changes in different languages are really tendencies common to all speech, we cannot help seeing that their unrestrained working through only a few centuries would make any language so irregular and phonetically decayed as to be unfit for the expression of ideas, besides being too complex to be retained in the memory of its speakers. As an instance of

what actually does happen in language we may take the Old Irish *toibnim* "I drive," *dosennat* "they drive," *tafnetar* "they drove," *toffund* "to drive," all formed by the working of strict phonetic laws from the Aryan verb-root *swand* with the prefixed particle *do*.

In each language such anomalies are allowed to accumulate till they become a strain on the memory or cause ambiguity, and then the whole system has to be reformed.

This implies, in the first place, that the speakers of a language, although they cannot absolutely prevent changes, yet have a considerable power of resisting and retarding them. When boys at school ridicule pronunciations and expressions which do not conform to those of the majority, they are doing their best to prevent change. If they did not do so, and if the rest of the community did not exercise the same control over the speech of individuals, the languages of two successive generations might become mutually unintelligible, as we see in the frequent instances of children left to themselves developing a language understood only by themselves.

This is another reason why each generation can tolerate only a certain amount of change; so that if a language changes much in one direction, it has to make up for it by being correspondingly conservative in another direction. Thus English has greatly changed its vowels in the last few centuries, as we see by comparing the pronunciation with the spelling of such words as *tale*, *tail*, *be*, *few*—the spellings of which are fairly close representations of their pronunciation at the beginning of the modern English period—but has been conservative with its consonants; while French drops its consonants freely, as in *bête* compared with the borrowed English *beast*, which still keeps the Early Old French *s* of *beste*, and is phonetically careless in its treatment of final consonants. As consonant-loss and vowel-weakening together would make English unintelligible, one of these tendencies has to be resisted, and from a variety of causes it was the former tendency which was resisted. Even the Polynesian languages are conservative as regards their vowels (p. 28).

In dealing with the results of changes which it is too late to prevent, the main question the speakers of the language have to settle with each change—of course, unconsciously—is whether it is useful or not to the language considered as a means of expression.

In dealing with superfluous distinctions, the general tendency of language is simply to get rid of them. Thus of the three traditional synonyms *sky*, *heaven*, *welkin*, the present spoken English preserves only the first. Spoken languages, in fact, as a general rule do not tolerate synonyms. Even with such familiar synonyms as *begin* and *commence*, *buy* and *purchase* in English, there can be no hesitation as to which word in each pair is the natural expression of the idea, and which is superfluous: even the most affected and pretentious speaker would hardly talk of *commencing to purchase*: the colloquial use of such words as *commence* is, in fact, a case of mixture of dialect —mixture with the literary dialect. When we are told that Arabic is the most copious language in the world because it has five hundred words for a lion, we feel sure beforehand that most of these will turn out to be fantastic literary terms belonging to a variety of periods; as a matter of fact, even classical Arabic prose generally has only one word for "lion" (*asad*), for which each of the modern Arabic dialects substitutes one—and only one—other word.

If both of a pair of doublets can be utilized to express a useful distinction—as in *of*, *off*, *a(n)*, *one*—they are kept; otherwise there is a tendency simply to discard one of them, as in the case of Modern English (wiþ). The growth of proper names out of ordinary nouns and adjectives often shows how otherwise superfluous distinctions may be utilized, as in *milner*, which is simply an older form of *miller*, *mickle* and *mitchell*, which are respectively Northern and Southern developments of Old English *micel*, whence Modern English *much*, which was originally a weak form which lost its *l* through want of stress.

Defective distinctions, on the other hand, can be remedied only by the formation of new distinctions. Thus if numerous

homonyms lead to ambiguity, a new word of allied meaning is substituted for one of the members of a homonym-group, or one of the words is differentiated by the addition of a derivative syllable, or in some other way. In Modern Chinese, where the number of homonyms is enormous, most full-words are in the spoken language made into compounds, as if in English we were to differentiate the like-sounding *son*, *sun*, by expanding them respectively into "son-boy" and "sun-star."

The difficulties caused by grammatical irregularities are met in various ways. If the forms that make up a grammatical category become hopelessly confused by phonetic changes and confusions of meaning, the inflections or other grammatical forms are simply got rid of, as when Italian abolished the Latin case inflections after phonetic decay had reduced such forms as *hominis*, *homini*, *homine*, *hominem* to some such common form as **omine*—not even keeping such distinct forms as *-orum*, *-ibus*—and substituted the use of prepositions.

If this cannot be done, levelling is had recourse to, as in the change of English *brethren* into *brothers*, where the rare inflection *-en* is levelled under the excessively frequent *-s*, and the stem-vowel *e* is levelled under that of the singular *brother*, *brother's*, this change being further aided by the analogy of the great majority of the other plurals, in which the plural keeps the stem-vowel of the singular; in other words, the *-s* and the vowel *o* are extended to those forms which are in the minority.

The choice of the form under which the exceptions are levelled—which then becomes the "regular form"—is determined partly by its relative frequency, partly by considerations of distinctness and convenience. Thus Middle and Modern English had the choice practically between two endings for the plural of nouns, that is, *-en* and *-es*; but as the Southern Middle English tendency to drop final weak *-n* made the former ending ambiguous, it was necessary to adopt the latter, in spite of the resulting confusion with the *-s* of the genitive, the confusion being afterwards made worse by the introduction

of the Northern verb-ending *-s* instead of *-th*. But these three grammatical functions were so distinct logically as to make confusion impossible, and so the logical instinct of the language acquiesced in the arrangement.

Limitations of Control. These last changes illustrate an important limitation in the logical control of changes, viz. that although the linguistic instinct can both prevent changes and utilize them when actually carried out, and also get rid of them, it cannot exercise foresight with regard to them; as Paul says, language knows nothing of precautions against the future results of changes.

Still less can distinctions that have once been lost be deliberately restored. The linguistic instinct cannot create doublets, it can only utilize them when formed by purely mechanical processes. Thus whatever may be the explanation of the difference in pronunciation between the noun *wind* and the verb *wind* in English, we may be quite sure that the shortening of the vowel in the former is not the result of any attempt to distinguish it from the verb—a distinction which is, indeed, quite superfluous, as the two words are always fully distinguished by their contexts. As a matter of fact, such differentiations are generally *not* made when they are most required.

The development of distinctions of tone in such a language as Chinese, by which words that would otherwise be identical in form are kept apart, used to be explained as a compensation for the confusions caused by phonetic decay—that is, that when two words became homonyms, a tone was "invented" to keep them distinct, and that as confusion increased, more and more distinctions of tone were elaborated to keep pace with the demands of distinctness. The real explanation of this apparent use of word-tones for purposes of differentiation is the exact opposite. It was the development of tone-distinctions that led to the carelessness of articulation and the multiplication of what without the tones would be homonyms.

General Levelling of Structure. The various processes of logical control and levelling of irregularities often

give a deceptive smoothness to the surface of a language, and make us inclined to assume that it was so from the beginning, and that this symmetry and simplicity of structure is the result of long-continued harmonious development, when it may be only a recent levelling. In this way we learn to look with suspicion on a language which, for instance, uniformly throws the chief stress on the first, or the last, or the last but one (penultimate) syllable of words, and to keep our minds open for the admission that this may be only a late levelling of a more varied system of stress.

The triliteralism of Semitic roots (p. 82) is a striking instance of the way in which language manages to carry out consistently some general but not universal tendency. It is evident from the comparison of such Arabic "roots" as *far-r* "flee," *farag* "split," *faraq*, *faraz* "separate," *faraf*, "spread," *fariḥ* "have the mind dilated, be pleased," etc., that these forms were originally derivatives of an older biliteral root *far*. This is confirmed by the fact that many existing Arabic root-words are plainly biliteral and not triliteral, such as *ibn* "son," plural *ban-ūn*, and are universally acknowledged as such. Roots like *amar* "command," which begin with a strong vowel, seem at first sight to be also biliteral. But no Arabic grammarian would admit this; and when asked where the third consonant was, would point to the initial glottal stop or "hamza" with which an Arab, like a German, begins an initial emphatic vowel; and, indeed, just as *katab* "write" has present *jaktub* "he writes," so also *amar* or *'amar* has present *ja'mur*. But this exaggeration of the initial closure of the glottis was probably at first only a device of the linguistic instinct for pressing these biliteral roots into the triliteral mould; the immediate impulse being probably given by the attempt to construct from *amar*, etc., a form parallel to the type of *jaktub* and numerous presents of the same form.

We may illustrate another levelling device of language by an imaginary example. Suppose English had remained an unmixed descendant of Old English, and by phonetic decay had become almost entirely monosyllabic, and that the last words

to resist this contraction were *unseen*, *unknown*, and the other derivatives with prefixed *un-*. The equal stress on prefix and root and the distinct meaning of the former might then easily lead the linguistic instinct to regard these derivatives not as dissyllabic words, but as groups of monosyllables—*un seen* parallel to *not seen*. In this way a language which had been forced by a process of levelling into the monosyllabic mould might retain a good many disguised polysyllabic words.

CHAPTER VI

The Aryan Languages

THE chief languages of the Aryan or Indogermanic family may be classed as follows, different periods of their development being separated by dashes:—

(A) *East-Aryan* or Asiatic:

(*a*) *Indian* languages: Sanskrit, the sacred language of India—Pali, the language of the Buddhist scriptures, and the other Prakrit dialects—Sindhi, Panjābi, Gujarāti, Hindi (or Hindustāni), Bengāli and the other *Gaurian* languages, to one of which the different dialects of the Gipsy language belong.

(*b*) *Iranian* languages: Zend or old Bactrian, the Old Persian of the Cuneiform inscriptions—Pehlevi—Modern Persian.

(*c*) Armenian, which is really intermediate between East- and West-Aryan.

(B) *West-Aryan* or European:

(*d*) Greek, the most important of whose dialects belong to three main groups: (1) Ionic and Attic, (2) Doric, (3) Æolic—Modern Greek or Romaic is a continuation of the Attic dialect.

(*e*) Albanian.

(*f*) *Italic* group: Oscan, Umbrian, Latin—the *Romance* languages: Italian, Provençal, French, Spanish, Portuguese, Roumanian.

(*g*) *Celtic* languages: Gaulish. The *Goidelic* group: Irish, Manx, Gaelic of Scotland. The *Cymric* group: Welsh, Cornish, Breton (introduced from Britain).

(*h*) *Slavonic* languages: Old Bulgarian or Ecclesiastical Slavonic—Russian, Polish, Bohemian, Servian, Bulgarian.

(*i*) *Baltic* languages: Lithuanian, Lettish.

(*j*) *Germanic* languages: Gothic. Scandinavian languages: Icelandic, Norwegian, Swedish, Danish. West Germanic: Old Saxon, Dutch, Flemish, Frisian, English, all of which constitute the Low-German group; (High) German.

Original Home. We know from history and tradition that the Aryan languages did not originally occupy anything like their present territory. We know that at the time when the hymns of the Rig-Veda—the oldest literary document of Sanskrit—were composed, the Aryan invaders of India were still confined to the north-west corner of the country, and we know that Greece and Italy were originally inhabited by non-Aryan races who spoke non-Aryan languages; for it is now certain that whatever family of languages Etruscan and Pelasgian belong to, it is not Aryan. It is now generally assumed that the original home of the Aryans must be sought somewhere in central or northern Europe. A comparison of the peculiarities of each language shows that they must at first have diverged gradually and with little or no disruption of geographical continuity, although the divergences were in many cases afterwards increased by extensive migrations. Thus we find very close resemblances and special affinities between Celtic and Latin, less close resemblances between Celtic and Germanic, while in the same way the Baltic languages are closely allied to the Slavonic, and yet show some affinities with Germanic. Slavonic again, shows likeness with the Asiatic group, and Armenian shares so many of the peculiarities of the European and the Asiatic group that it is difficult to decide under which to class it.

The only way to do justice to these various relationships is to assume that when parent Aryan began to split up into separate languages or dialects, these incipient languages occupied much the same relative positions as they do now:—

Germanic
Celtic Lithuanian Slavonic
Italic Greek Armenian
Zend, Sanskrit

We shall be able to come to more definite conclusions as to the original home of Aryan when we have considered its affinities with other families of languages.

Age. The oldest contemporary documents of the Aryan languages are the Greek and Latin inscriptions, which take us back, however, no further than about the sixth century B.C. The oldest Aryan literary document is the oldest collection of Sanskrit hymns known as the Rig-Veda (more correctly *rgvēda* "hymn-wisdom"), which were handed down by minutely accurate oral tradition long before they were committed to writing. The relation of their language to that of the later Brahmanas and the still later classical Sanskrit of the Indian grammarians, which must have been a dead language before the rise of Buddhism in the sixth century B.C., shows that their language cannot well be later than about 2000 B.C., and is perhaps older.

It is, of course, still more uncertain how far we are carried back by the hypothetical reconstruction of parent Aryan on the basis of the comparison of the oldest forms of each Aryan language. This reconstruction does not carry us farther back than that late period of the language which immediately preceded its break-up into distinct languages—that is, to a period in which these languages were only represented by slight dialectal variations, all of which need not, however, have necessarily corresponded exactly to the later divisions into languages. We may, perhaps, venture on the conjecture that the Aryan language still constituted an undivided whole about 10,000 B.C.—undivided in the sense that all Aryan speakers were still able to understand each other with perfect ease.

General Structure. The general results of comparative philology seem to justify us in regarding the oldest Sanskrit as a fairly true representation of the general structure of parent

Aryan in that stage of development which immediately preceded its breaking up into distinct languages. In one feature, however, the Asiatic group must be regarded as less conservative than the European, and that is in the vowels. It is now generally admitted that the simplicity of the Sanskrit vowel-system with its three short vowels *a*, *i*, *u* is delusive, and that the European languages have preserved the parent Aryan vowels much more faithfully, so that the vowel-system obtained by a comparison of the oldest Greek dialects is not very far removed from the original Aryan one, and is at any rate much more archaic than that of the Asiatic group, not only in its preservation of *e* and *o*, but also in its diphthongs. Sanskrit has, on the other hand, not only preserved the Aryan accentuation in its main features, but also the chief characteristics of its consonant-system.

It must also be remembered that the earliest specimens of writing in India—the inscriptions of Açōka—date only from the middle of the third century B.C.—that is, after Sanskrit had ceased to be a living language. From the elaborate and accurately phonetic alphabet of these inscriptions—which is probably of South Arabian origin—is indirectly derived the much later Devanagari alphabet in which Sanskrit literature has been mainly preserved.

It is evident, therefore, that the Sanskrit levelling of short *e* and *o* under *a* may be a late change, and that the apparent absence of these vowels and of other archaic features from the present text of the Rig-Veda may be merely an inevitable result of forcing the language into the mould of the Devanagari alphabet, which certainly distorts it in many ways, as shown by the fact that we cannot make metre of the text without considerable modifications. We have, at any rate, clear proof in Sanskrit itself of its having had *e* and *o* in the same words in which they occur in the European languages. Thus original *k* becomes the front stop *c* before *a* = European *e*, as in *ca* = Latin *que* (Aryan *ke*), while it remains unchanged before *a* = European *o*, this latter being preserved in Sanskrit in such collocations as in *açwō dramati* "the horse

runs," where the *-ō* stands for older *-oz* from Aryan *-os* preserved in the Greek *híppos*. It is, however, to be observed that the Sanskrit phoneticians—the earliest of whom go back to about the sixth century B.C.—give no hint of the existence of short *e* or *o*.

Sounds. Parent Aryan seems to have had at least the following *vowels*:

a ; i, e ; u, o

all of which occurred both short and long. The *e* was an open sound, perhaps once the same as the English (æ) in *man*.

There were also a considerable number of diphthongs:

ai, ei, oi ; au, eu, ou

all of which also occurred with the first element long:

āi, ēi, ōi ; āu, ēu, ōu

The chief *consonants* were:

	j	*r, l*	*s, (z)*	*w*
k, g	*c, ȷ*	*t, d*		*p, b*
kh, gh	*ch, ȷh*	*th, dh*		*ph, bh*
(*η*)	(*ñ*)	*n*		*m*

of which those in ( ) were only secondary developments, *η* for instance being only a modification of *n* before *k* and the other back consonants. The aspirates in the third line constitute a characteristic feature of Aryan, especially the voice aspirates *gh*, etc. The breath aspirates were no doubt the same in Aryan as they still are in the traditional pronunciation of Sanskrit, that is simply ordinary English (k), etc., uttered with independent stress on the breath-glide that follows the stop, exactly as in the Irish pronunciation of such a word as *tell*. The voice-aspirates differ in the present pronunciation of Sanskrit from simple *g*, etc., in having strong stress on the glide to the following vowel as in *dadhāmi* "I place" compared with *dadāmi* "I give," but the Sanskrit grammarians seem to make *dh*, etc., a combination of *d*, etc., with a voice throat-sound like that of Arabic *ʿēn*, which also occurred alone

in Sanskrit as a weakening of *gh*, as in *hanti* "he kills" (present participle *ghnant*); it is called "sonant *h*" by European scholars. It is, therefore, uncertain whether the Aryan aspirates were originally emphatic forms of *k g*, etc., or contractions of simple *k g*, etc., and a following throat consonant *h*, which was voiced after voice consonants. Besides the normal back consonants *k*, *kh*, *g*, *gh* there were four other back consonants which probably differed from them in being formed as far back as possible in the mouth, like the Arabic *qāf*, developing afterwards into *kw*, etc., in which the *w* may be taken to imply only a rounding or lip-modification of the preceding consonant, not a combination of (k), etc. + (w).

The vowel-like consonants *r*, *l*, *n* and the other nasals were capable of assuming syllabic functions—that is, of being used like vowels. This syllabic use of *r* and *l* is preserved in Old Sanskrit, as in the participles *krtá* "made," *klptá* "arranged" compared with *kárōmi* "I make," *kálpāmi* "I arrange," in both of which latter *a* = Aryan *e*. In the present pronunciation of Sanskrit they are made into *r*, *l* + a vowel, *krta* becoming *krita*, as in the word *Sanskrit* itself. In the other Aryan languages they are resolved in the same way into the corresponding consonant preceded or followed by a vowel, the consonant itself being then sometimes dropped, as is also the case in the Sanskrit representative of syllabic *n*. Thus Aryan *tntó* "stretched" appears in Sanskrit as *tatá*, in Greek as *tatós*, in Latin as *tentus*, while Greek *dérkomai* "see" has aorist *édrakon* = Sanskrit *ádrçam* with *ra* = syllabic *r*. These syllabic consonants also occurred long: at any rate, we can hardly explain such preterite participles as Sanskrit *pūrṇá* = English *full*, Greek *strōtos* "spread" with *ūr*, *rō* instead of *r*, *ar* respectively, except on the supposition that they are developments of Aryan *pllnó*, *strrtó*.

The development of these syllabic consonants is, as may be inferred from the examples given, the result of their losing the accompanying vowel in originally unaccented syllables. This leads us to a consideration of the most important factor in Aryan sound-changes—its ***accentuation***.

Aryan seems originally to have had but one accent—the acute—which consisted in uttering one syllable with greater force than the others together with either a rising or a high level tone, any following syllable being then uttered with diminishing stress and a falling tone, unless it was followed by another acute accent, in which case it became a low level or grave tone, every syllable before an acute or after a falling tone being grave. Such are the main principles of Old Sanskrit accentuation, which no doubt apply also to parent Aryan. The agreement of Greek and Sanskrit proves also that it had a circumflex or compound-falling tone, the result of contracting two vowels—an acute followed by a falling one—into one syllable. Thus the acute accent of the Greek nominative *tīmḗ* becomes circumflex in the genitive *tīmês*, where the inflection is a contraction of *-ées* or something similar. In Vedic Sanskrit the long vowels of such contracted inflections are often metrically equivalent to two syllables, just as in English sarcastic *oh!* with a compound-falling tone sounds like two syllables—one for each of the elements of the compound tone.

The place of the accent was not restricted by any considerations of quantity or distance from the end of the word, as was afterwards the case in Greek and Latin, nor was it restricted to the root-syllable of a word, as was afterwards the tendency in the Germanic languages. Although we cannot help assuming that all derivative and inflectional elements must originally have been unaccented—for this is the main condition of their development—this was no longer the case in Aryan as we know it. On the contrary, certain inflectional elements had come to be regarded as emphatic, and so became capable of taking away the accent from the root-syllable. The "augment"—the inseparable prefix *e-* which marked past time—regularly did so, as in the aorist which appears in Sanskrit as *ádṛçam*. In the nouns the nominative, vocative and accusative—that is, the more abstractly grammatical cases—were "strong" cases, that is, they threw the stress on to the stem, while in the other cases the endings are emphasized.

Hence all noun-inflection was originally accompanied by shifting of accent, which is still preserved in such Sanskrit and Greek forms as *vā́k* = Latin *vōx*, Greek *ópˢ* "voice," accusative singular *vā́cam*, *ópa*, but genitive *vā́cás*, *opós*. The verb, too, shows similar shiftings, as in Sanskrit *éti* "he goes," *imás* "we go," Greek *eîti*, *ímen* (where the accent has been thrown back) = Aryan *éiti*, *imés*.

These last examples also afford illustrations of a marked characteristic of Aryan—its tendency to weakened unaccented sounds, in which it bears a striking resemblance to Modern English with its changes of strong-stress (aa) *are*, (/æl) *shall*, (wil) into (ə, /əl, l), as in (ail gou) *I will go*. In completely unaccented or "grave" syllables the tendency was to drop short vowels altogether, as in Sanskrit *ásmi* "I am," *smás* "we are" = Aryan *ésmi*, *smés*; and this is, as already remarked, the origin of the syllabic consonants, as when Greek *dérkomai* "see" has aorist *édrakon* with the regular accent on the augment, *ra* being the regular Greek representation of syllabic *r*. Just as Aryan *er* in *dérkomai* became *r* when unaccented, so also the diphthongs *ei*, *eu* were reduced to *i*, *u* respectively when unaccented, as in Aryan *imés* compared with *éimi*, and Greek *pustós* "known" compared with the present *peúthomai*.

The Aryan vowels were not less susceptible to the influences of intonation. The difference of the Greek nominative *híppos* and the vocative *híppe* can easily be explained by supposing that the *o* is the result of the falling tone which necessarily followed the acute accent on the first syllable, while the *e* in the vocative is the natural result of shouting out each syllable with a high, clear tone. The alternation of *o*, *ō* with *e*, *a*, *ē*, *ā* in other cases may, therefore, also be the result of changes of intonation which are, however, still very obscure and doubtful. This alternation is shown in such Greek pairs as *démō* "build," *dómos* "house," *leípō* "leave" perfect *léloipe*, *ákris* "point" *okrís* "pointed," *rhḗgnūmi* "break" perfect *érrōge*, *phā́mí* "speak," *phōnḗ* "voice."

The distinctions of ***quantity*** were sharply defined in

Aryan, even syllabic consonants being distinguished as long and short.

Compensatory lengthening of short vowels was frequent. The most important cases are those which fall under the law that the vowel of an accented short syllable is lengthened when a following syllable is dropped, as in Latin *vōx* compared with Sanskrit *váca(s)*, Greek *épos*, Greek *klōps* "thief," compared with *klopós* "thief," Greek *patḗr* "father," compared with accusative *patéra*.

Such lengthenings as that in Sanskrit *jānu* "knee," compared with Greek *gónu* and the other instances in which *o* appears as *ā* in Sanskrit, may be the result of intonation, for in some of the Chinese dialects vowels are regularly lengthened under certain tones—especially falling ones. As we have seen, the *o* of *gónu*, etc., may be the result of the influence of such a falling tone.

As we have seen, the ***loss*** of sounds plays a prominent part in Aryan phonology. Not only vowels are freely dropped, as in *smés* "we are," *patḗr-* "father," but also consonants. Thus the Sanskrit nominative *pitā́* is explained as the result of dropping the original *r* before another word beginning with a consonant, just as in English the (r) of *father* is dropped when the next word begins with a consonant, as in (faaðə wiljəm). In Sanskrit the other form **pitā́r* was afterwards supplanted by *pitā́* even when a vowel followed.

Gradation. One result of all these, and the many other sound changes in Aryan, was that the vowels were associated together in more or less definite gradation-series, the character of which was partly dependent on the accompanying consonants. The following are examples of some of these series, with examples from the different languages :—

er, ēr, or, ōr, r: Greek *phérō* = Aryan *bhérō* "I carry," Old English *bǣr*, "bier," Greek *dérkomai*, perfect *dédorka*, *phṓr*, "thief," literally "carrier (off)," Greek *édrakon*.

ei, oi, i: Greek *leípō* "leave," perfect *léloipa*, aorist *élipon*, to which correspond Old English *belīfan* "remain," preterite

belāf, noun *lāf* "leavings," whence by mutation *lāfan* "to leave," and the preterite participle *belifen*.

en, on, n: Old English *bindan* "bind," preterite *band*, preterite participle *bunden* from older Germanic *bundanó* with the accent on the last syllable, where the *un* is the Germanic representative of the syllabic *n*.

We see from these last examples how the old Aryan gradation came in the separate Aryan languages to be associated with definite grammatical functions, till at last these originally mechanical changes came themselves to have inflectional values, and at last in some cases supplanted the original inflections. The Germanic and Old English preterites are the lineal descendants of the Aryan reduplicating perfects, traces of the original reduplication being still preserved in such Old English forms as *hebt* "commanded, named" from *hātan* (p. 47).

Already in parent Aryan these gradations and other sound-changes ran through the whole language, adding fresh complexity not only to its inflectional, but also to its derivational processes.

Inflections. The Aryan inflections were both numerous and irregular, apart from the variations which resulted from gradation and the numerous other changes brought about by shifting of stress, influence of intonation, and loss of vowels and consonants.

Thus the ***nouns*** had three numbers, singular, dual, and plural. The singular of nouns had at least eight cases, nominative, vocative, accusative, dative, genitive, ablative, locative, instrumental, these distinctions being less clear in the plural, and still less so in the dual, in which only three cases or groups of cases are clearly distinguished. The comparative indistinctness of the plural inflections is probably the result of the case-inflections having blended with the following plural-inflection, although there is in Aryan nothing like the regular correspondence of singular and plural inflections which we observe in Finnish. The case-endings vary not only according to the number, but also

according to the gender of the noun. As the distinctions of grammatical gender are of secondary origin in Aryan (p. 59), such inflectional distinctions must also be of secondary origin. It is to be observed that the different forms of the inflections are not mere variations of one common form, but are often perfectly distinct in origin—grammatical synonyms.

The endings vary according to the character of the stem, the most important distinction being that between polysyllabic vocalic stems—the most important of which again are the *o*-stems (chiefly masculine) and the *ā*-stems (feminine), such as *ἑκϖο* "horse," feminine *ἑκϖᾱ*—and the consonantal stems, which may be monosyllabic, as in the Greek nominative singular *ὀπ-ς* "voice," Latin *vōx*, compared with the Greek nominative singular *ἵππος* = Aryan *ἑκϖος*. Monosyllabic stems ending in vowels also belong to the consonantal class, such as *nāu* "ship."

The real relation between these two classes of stems has long been a matter of dispute. The old school of philologists who started from the axiom that all roots were monosyllabic regarded the *o*-stems as consonant roots + a demonstrative element *-a*. But when we find the final vowel of such a word as *ἑκϖο* preserved not only in composition (Greek *ἱππο-*), but also in the vocative, in which all philologists agree in seeing the bare word without any inflectional addition, we cannot but regard it as an integral part of the word—as part of the root, in fact. It is, therefore, possible that instead of the vocalic stems being extensions of the consonantal stems, the latter are shortenings of the vocalic stems. In fact the lengthening in such nominative as Greek *φῶρ* (p. 105) seems almost to prove that this is so—at least in many instances.

The endings themselves vary greatly in character. The *-s* of the nominative is apparently of pronominal or demonstrative origin (p. 37). Other endings, such as the locative, may from their meaning be conjectured to have been originally particles similar to prepositions. Others, such as the dative plural ending preserved in Latin *omnibus*, Sanskrit *-bhjas*,

and the Sanskrit instrumental plural *-bhis*, are clumsy agglutinations with what look like old nouns.

The ***verb***-endings which denote person show clear traces of the development out of suffixed pronouns.

As in the nouns, the endings differ—though in a less degree—according as they come in contact with a vocalic or a consonantal verb-stem, as in the vocalic *bhérō* "I carry," *bhéreti* "he carries," compared with the consonantal *ésmi* "I am," *ésti* "he is." This analogy is an argument for the verb-stems having been originally nouns.

The verb is remarkable in showing pre-flection in the form of the augment with which the imperfect and aorist are formed, as in the imperfect *ébherom* "I carried," *ébheret* "he carried," the endings of the aorist being similar in character, as in *édrcom* "I saw," *édrces* "thou sawest," *édrcet* "he saw." The shortening of the endings is apparently the result of the accent being thrown back on the augment. The perfect has the most peculiar endings, as may be seen by comparing the last three forms with the corresponding ones of the perfect singular *dedórca, dedórctha, dedórce.*

Besides these tenses, there was also an s-aorist, preserved in such forms as Latin *dīxit* "he said," = *dīc-s-it*, a pluperfect formed from the perfect by prefixing the augment, and a future formed by adding *-sjo.*

Aryan also had special stems for the subjunctive and optative moods. The subjunctive is formed by adding some vowel to the verb-stem, whence the long vowels in the subjunctives of vocalic verbs, as in Sanskrit *bhavāsi* "thou mayest be," Latin *legās* compared with the corresponding indicative forms *bhavasi, legis.* The mark of the optative is *jē*, weak *ī* as in *sjēm* "I would be," *sīmén* "we would be," *bheroīm* "I would carry." The imperative is represented partly by the uninflected verb-stem, as in *bhére* "carry!," partly by special endings.

There were also special forms for the passive and middle (or reflexive) voices, the latter being apparently the original;

its endings seem to be derived from those of the active, as in the third person singular *bhéretai* compared with the corresponding active form *bhéreti*.

The verb distinguished three numbers like the noun, but made no distinction of gender, as in the Semitic languages, which is an additional argument in favour of noun-gender being of late development in Aryan.

From the verb-stems are also formed by means of special derivative elements verb-nouns or infinitives, and verb-adjectives or participles, which are inflected like nouns and adjectives respectively.

Besides the distinction of vocalic and consonantal stems, the verb also has a number of special present-stems, some formed by adding syllables, some by reduplication, some by infixing a nasal, and so on, as in the Greek *deík-nūmi* "I show" compared with *deik-tós* "capable of proof," *dídōmi* "I give" compared with *dotós* "given," Latin *ru-m-pō* "I break" compared with *ruptus* "broken." These various formations no doubt originally had special meanings of their own, of which some of them still show traces, especially those in *-sk* which were originally inchoative verbs: Latin *crē-scō* "increase," originally "begin to grow."

Concord; the Inflectional Instinct. As might be expected in so highly inflectional a language, concord was fully developed, so that adjectives were generally sharply marked off from nouns by their power of taking the inflections of all three genders. When concord had once established itself, it must have greatly strengthened the inflectional instinct, and also had a great influence on the development of grammatical gender.

All this led to other important results. In the first place a general tendency developed itself to give a definite grammatical form to each logical category. The parts of speech were marked off by easily recognizable formal characteristics, and a strict line was drawn between what we may call "major" and "minor" parts of speech, the former being declinable, the latter—comprising adverbs and particles—indeclinable, and

therefore generally incapable of being used as nouns or verbs, etc., until they had received an appropriate derivative syllable. As the major parts of speech were the natural rulers in a sentence, a feeling gradually sprang up that no full-word—unless an abverb—could take its place as an independent member of a sentence till an inflection had been tacked on to it, not merely as a means of showing its concord-relations and other special relations to the other words in the sentence, but also to show that it was really an independent word, and not part of another word. Hence the bare stem or root was employed only in the case of those declinable words which were capable of constituting sentences by themselves—that is, nouns in the vocative and verbs in the imperative, vocatives and imperatives being on a level with interjections, which are "sentence-words" rather than words in the ordinary sense. Otherwise such bare stems as *ecwo*, *bhere*, made the hearer expect either another inflected full-word to make up a compound, or else an inflection—which might be preceded by a derivative element—to make up a simple word.

Primitive Aryan Inflections. It is clear from a survey of the inflections of Late Aryan as revealed to us by comparative philology, that they are but the ruins of an older system, in which the inflections were much more numerous, but at the same time more distinct and regular. Thus there was probably a period when the noun had twice as many cases, which were added to all nouns alike with but trifling modification by the final sounds of the stem.

There must also have been a period in which the instincts of inflection and concord were only beginning to assert themselves: in which inflections were freely omitted when they could be easily supplied from the context—when, for instance, *three good man* could do duty for *three good men* on the ground that plurality was already indicated by the numeral, and that concord was to be shown grammatically only when it was really wanted.

This period, again, must have been preceded by one of more or less loose agglutination, in which the cases were mere

post-positions; and this period was preceded in its turn by an isolating period, in which grammatical relations were indicated by word-order and the use of particles. In this oldest pre-agglutinative period post-adjunct order (*man good*) must have prevailed (p. 41)—a tendency which was completely reversed afterwards.

CHAPTER VII

Affinities of Aryan

After we have learnt all we can by comparing the different Aryan languages among themselves and reconstructing their common ancestor, the next step is to find a basis of comparison with other non-Aryan families of languages. Just as the Slavonic languages are non-Germanic languages, and yet akin to the Germanic languages, so also there may be languages which though not Aryan may still be cognate with parent Aryan through descent from the same remote ancestor.

The first step in determining the affinities of a language or group of languages is to find out its original home. As we have seen, the evidence drawn from the Aryan languages is in favour of a central or north European origin, and there is nothing in the history of the speakers of these languages to make this conclusion improbable.

The next step is to determine what other families of languages were geographically conterminous with Aryan during the period of its unity.

Ugrian. If, then, we look eastwards, we find the Aryan languages in direct contact with the great Ugrian family, of which Finnish and Hungarian are the most prominent representatives. Of the other Ugrian languages, Esthonian is a mere dialect of Finnish, and Lappish is closely connected with it, these three constituting a special West-Finnic group. West-Finnic, together with the more easterly Volga and Permian groups, constitutes the Finnic division. The other main division, the Ugric or Uralic, is represented

by Hungarian together with Ostiak and Vogul, which last are spoken on both sides of the Ural mountains, and extend therefore into Asia:—

Finnic	West Finnic: Finnish, Lappish	Ugric	Hungarian (Magyar)
	Volga group		Vogul
	Permian group		Ostiak

The Ugrian languages have not a long literary history. The oldest documents of Finnish date back only a few centuries. Those of Hungarian are older; but even the earliest of them are less conservative on the whole than Modern Finnish. That Finnish has changed but little during the last 1600 years or more—certainly much less than most of the Aryan languages—is shown by the archaic character of its loan-words, especially those from the Germanic languages, such as *kuningas* "king," where the *a* = Aryan *o* of the stem is preserved, which is lost already in Gothic—the most archaic of the Germanic languages. So also *kaunis* = Gothic *skauns*, German *schön*, keeps the stem-vowel *i*. Some of the other loan-words exhibit still more remarkable archaisms. It is to be remarked that Finnish had probably got into the habit of reducing initial consonant-groups to a single consonant long before the period of these borrowings, so that the initial *s* of Germanic **skaunis* was dropped at once—not in consequence of any later change.

All the evidence points to the northern half of Russia as the original home of the undivided Ugrians, who, however, even now are much less divided than the Aryans. Aryan and Ugrian must therefore have been neighbours from the beginning. The character of the loan-words—which show a striking predominance of ideas relating to military and political organization—seems to prove, indeed, that when they were first introduced, the Ugrians must have been in a state of political subordination to the more warlike Germanic race.

But the borrowing was sometimes the other way. Anderson has shown that the Aryans occasionally borrowed words from

the Ugrians, especially names of weapons, such as the Slavonic *toporŭ* "axe," Finnish *tappara*, which is a regular derivative from *tappaa* "strike, kill."

When we consider that a comparison of Finnish with Hungarian shows at first sight but little resemblance, while the divergences between the different Aryan languages are still greater, it stands to reason that the divergences between Aryan as a whole and Ugrian as a whole must be greater still, so that the number of genuine cognate words which are easily recognizable must be small, while there is always the suspicion of borrowing.

But when we find a word occurring in the eastern as well as the western Ugrian languages and at the same time denoting ideas which are not likely to require a borrowed word to express them, then we are justified in rejecting the hypothesis of borrowing on either side, or at least in hesitating to reject the hypothesis of common origin. Anderson—who was the first to investigate the question in a scientific and impartial spirit—has made detailed comparisons of part of the vocabularies of the two families, and the result is to establish beyond reasonable doubt that Aryan and Ugrian have a certain number of roots in common. Thus the familiar Finnish word *sanakirja* "dictionary," literally "word-book," is made up of such roots. With *sana* compare the Sanscrit *svana* "sound," Old Irish *son* "word." We have another derivative from the root *swa* in Sanskrit *svara* "sound," old English *andswaru* "answer"; here again we have Finnish parallels such as *sorina* "noise," *saarna* "sermon," and many others. The word *kirja* "book" has also the meanings "mark, furrow, incision," showing that it was originally applied to letters carved on wood, just as *book* = Old English *bōc*, which also has the meaning "beech tree," originally meant a slab of beech-wood carved with runic letters. It is formed from the Ugrian root *k-r* "to cut," cognate with the Aryan root preserved in Modern English in *shear*, *score*, *plough-share* = Old English *sceran*, *scoru*, *scaru*, with which compare Finnish *koro* "notch," *-kara* in *aurankara* "ploughshare."

The Aryan root appears also without the *s*, as in Greek *keírō* "shear, shave."

The absence of the initial *s* in the Finnish words may be original, but it may also be the result of the already mentioned phonetic law which does not allow more than one initial consonant, in consequence of which such borrowed Germanic words as those corresponding to Old English *dryhten* "lord" and *strand* "shore" appear in Finnish in the disguised forms *ruhtinas* "prince" and *ranta*. This peculiarity—which runs through all the Ugrian languages—together with the want of any original distinction between breath and voice stops—*g*, *d*, *b* being mere secondary forms of *k*, *t*, *p*—and the general poverty of the Ugrian consonant-system add greatly to the uncertainty of comparison.

The difficulties about borrowing do not affect a comparison of the grammatical structure of the two families; for, whatever may be said about the unlimited possibilities of mixture of languages, there is no evidence that the fundamental grammatical structure of a language is ever appreciably modified by foreign influence. We know that as long as scholars confined themselves to comparisons of the vocabularies of the different Aryan languages, the relationships of these languages continued to be a matter of vague guesswork: it was not till Bopp and his successors began a methodical comparison of their inflections that the true relationship was established, and the science of comparative philology put on a really scientific basis. It is interesting to observe that just as the older school of investigators preferred the most improbable hypotheses of borrowing to admitting the clearest evidence of a common origin of Aryan and Ugrian, so also the pre-scientific comparers of Latin and Greek with the Germanic and other Aryan languages hardly ever got further than to admit the possibility of borrowing, even the boldest of them only going so far as to suggest that Greek and Latin might have borrowed words from the rude tribes of the north instead of *vice versâ*.

The morphological comparison of Ugrian and Aryan is

much facilitated by the fact that the Ugrian languages are, like the older Aryan languages, inflectional. In their present stage of development, indeed, the West-Finnic languages are in some respects more rigorously inflectional and further removed from the agglutinative stage than Sanskrit itself. But on the whole the present Finnish inflections are distinctly more primitive than the oldest Aryan ones. They are more numerous, more regular in form, and more concrete and primitive in meaning. Thus the noun has fifteen cases, in most of which the original local meaning is clearly discernible: in fact the Finnish inflections are in most cases what we should be inclined on *à priori* grounds to postulate as constituting the prehistoric stage in parent Aryan.

The Finnish verb is poor in tense-distinctions, but rich in moods, infinitives and participles, as well as in derivative elements, out of which the mood-distinctions seem in many cases to have developed. Like the Aryan verb it has three persons and two numbers, to which some of the languages add a dual. The personal endings of the Finnish verb are evidently suffixed pronouns. These endings and the pronouns themselves bear so close a resemblance to the corresponding Aryan forms that it amounts to identity in some cases. Thus the present indicative of *sanoa* "to say"—compare *sana* "word"—is conjugated as follows:

minä sanon	plural:	*me sanomme*
sinä sanot		*te sanotte*
hän sanoo		*he sanovat*

The most superficial comparison of this paradigm not only with such Sanskrit forms as *bhavāmi* "I am," plural *bhavāmas*, second person plural *bhavatha*, but with the corresponding forms of such languages as Modern Italian, would be enough to establish a common origin. If we trace the Finnish forms further back by comparison with the other Ugrian languages, the resemblances become still more striking.

Thus the ending of the first person singular was originally *-m*, which is still preserved in Lappish—where it becomes *-b*

in some dialects—and in most of the other languages, Finnish itself showing traces of it. The independent pronoun of the second person singular appears in Lappish as *ton*, *don*, the other languages also pointing to initial *t-* as the older form. The older form of "he" appears from similar evidence to have been *sana*, together with another form *sawa* or *sawan*, which is probably cognate with the Aryan reflexive pronoun *sewe*, *sewo*, Latin *suus*. Finnish shows another ending *-pi*, *-vi* of the third person singular, which seems to be one of the primitive p-pronouns (p. 37), together with a third ending *-sen*, which may contain the same pronominal element as the Aryan ending *-ti*. In the third person plural the *h* of the pronoun is a later form of *s*, as in the singular. The verb-ending is transparently nominal in character, being simply the singular *-vi* with the noun-plural *-t*—compare *käde-t* "hands." There is no blind borrowing or imitation here, but a free selection from a common stock of pronominal material.

We cannot expect the same degree of similarity in the noun-inflections. One great difficulty is that what appears to be one case may be really two distinct cases run together.

Thus in Finnish the genitive and the accusative singular both end in *-n*, but in some of the other languages the accusative preserves the older form *-m* or *-me*, as in the Lappish demonstrative *tam*, which is identical in root, inflection and meaning with the Sanskrit *tam*. Unfortunately the uses of the Ugrian accusative afford us no direct clue to its original meaning, but the Aryan use of the accusative to denote the goal of motion may well be the original one in Ugrian also, where nearly all the other cases still preserve direct traces of their original local meanings.

In identifying the accusative ending *-m* in Ugrian and Aryan, one reservation must be made. The Sanskrit *tam* is specifically masculine as opposed to feminine, the ending *-m* being also used to mark the neuter nominative singular. Lappish *tam*, on the other hand, has no such restrictions, for Lappish, like the other Ugrian languages, knows nothing of grammatical gender. But this—which has been urged as one of the strongest

arguments against any affinity between the two families—is only a welcome confirmation of the original absence of gender in the Aryan languages themselves.

After what we have seen of the resemblance between the Aryan and Ugrian pronouns, we need not be surprised to find in some of the Ugrian languages a definite suffix *-sa* or *-s* having the functions of a definite article, which is otherwise wanting in the Ugrian languages. Finnish has lost this *-s* as an independent suffix, but still preserves it in a good many words, where, however, it has been fossilized so as to become part of the stem of the word, its meaning having been quite forgotten, as in *parmas*, essive *parmas-na*, "in (the) bosom," by the side of the original form *parma* without any *-s*. The preservation of the *s* in Aryan loan-words, as in *kuningas* "king," *kaunis* "beautiful"—where it has also become part of the stem—is no doubt the result of identifying the Aryan nominative ending *-s* with the Ugrian definite suffix, of which the Aryan *-s* itself is only a later development, or a parallel development from the same demonstrative root.

We thus find in Ugrian the germs of the Aryan nominative case and masculine gender, although Ugrian itself is still equally destitute of a masculine gender and a distinctive nominative case; for in Finnish the nominative singular is simply the bare stem, from which it is differentiated only by secondary phonetic changes (p. 64), just as in Aryan we find such nominatives as *patêr* marked solely by secondary changes (p. 105).

We have thus found forms in Ugrian so similar to the nominative and accusative singular endings in Aryan as to make their identity and consequently their common origin at least highly probable. But this identification does not throw much fresh light on Aryan morphology, and merely serves to confirm conclusions drawn from the Aryan languages themselves.

It is different with the following views, founded on an ingenious speculation of Anderson, which throw unexpected light not only on the origin of Aryan cases, but also on some

of the details of the development of grammatical gender. Our starting-point is the Finnish partitive case.

The partitive ending is *-ta*, the *t* being often dropped in accordance with the general tendencies of the language, and the *a* being changed to *ä* = (æ) whenever the laws of "vowel-harmony" require this change. Its original meaning was motion from a place; and this meaning is still preserved in some adverbial uses, as in *kaukaa* "from afar," where *-aa* is a contraction of *-ata*. The partitive was therefore originally an ablative, and is probably remotely cognate with the Sanskrit and early Latin ablative in such words as *açvād* = Latin *eqvō(d)*. It is easy to see how the idea of "motion from" or "taking from" developed into that of "part of," as in *leipää* "some bread"—*leipä* being the borrowed Germanic word represented by English *loaf*—corresponding to the French *du pain*, literally "from the bread."

In Finnish the subject as well as the object is put in the partitive whenever the meaning requires it, as in *miehiä tulee* "some-men are coming," the verb being then always put in the singular; compare *miehet tulevat* "the men are coming," where we have a "total" instead of a "partial" subject, with the verb in the plural. This is an interesting parallel to the Greek use of singular verbs after neuter plurals; the difference being, of course, that while the Greek neuter plurals were originally singulars, the Finnish partitive *miehiä* is as distinctly plural in form—as shown by the inserted *i*—although it has come to be felt as equivalent to a collective singular.

There is an analogous distinction in the predicate. Thus *kivi on kova*, where the predicate *kova* is in the nominative, means "the stone is hard," that is, "not a soft stone"; while *kivi on kovaa*, where the predicate is in the partitive, means "stone belongs to—is part of—the class of hard things." Here again we see the tendency of the partitive to suggest the idea of abstractness or generalization.

But if in such constructions as those last described the subject is a living being, the complement must always be in the

nominative, not in the partitive; thus in such a sentence as "man is mortal," the predicate "mortal" is put in the nominative. This is done also even when the subject is merely a part of a living being, such as hands, feet, hair.

Here we see clearly the tendency to associate the partitive with what in Aryan would be the neuter gender. This is carried, according to Anderson, still further in Esthonian, where *müd* = Finnish *muuta*, the partitive of *muu*, "other, different," in some constructions entirely excludes the idea of a living being.

If, then, Lappish *tam* is to be identified with Sanskrit *tam*, we are justified in comparing *tätä*, the Finnish partitive singular of the same demonstrative pronoun, with the Sanskrit neuter singular *tad*, Gothic *þata*. If so, the neuter pronoun ending still preserved in English *it*, *that*, *what*, is nothing but the last remains of an old partitive case or agglutinative postposition.

We have not space to dwell on the equally striking agreements in the derivative endings of the two families, which, again, often amount to identity.

If all these and many other resemblances that might be adduced do not prove the common origin of Aryan and Ugrian, and if we assume that the Ugrians borrowed not only a great part of their vocabulary, but also many of their derivative syllables, together with at least the personal endings of their verbs from Aryan, then the whole fabric of comparative philology falls to the ground, and we are no longer justified in inferring from the similarity of the inflections in Greek, Latin, and Sanskrit that these languages have a common origin. In fact, the whole controversy about the affinities of Aryan and Ugrian has no longer any ground to stand on, for there is no longer any Aryan family, and no longer any obstacle to assuming that the dusky inhabitants of India simply borrowed their inflections from Greek and Latin in their prehistoric stages of development.

That the long-continued proximity of the two languages

has kept them linguistically closer together than would perhaps otherwise have been the case, is probable enough. The resemblance of Finnish to the nearest Aryan language—that is, Russian—is very remarkable, in the syntax as well as in the general morphology. But all such influence is mainly negative—in the way of arresting change, not of causing it.

Altaic. The affiliation of Aryan to Ugrian is only the first step in the investigation of its affinities. If we pursue our course still further east, we come at once on the great Altaic family of languages covering nearly the whole of northern Asia from the Ural mountains to the Pacific Ocean. These languages are spoken by a fairly homogeneous Tartar or Mongol race, to which the eastern Ugrians also belong. Even the Fins still preserve certain Mongol characteristics, in spite of the large mixture of Germanic blood.

Just as Ugrian represents an earlier stage of Aryan, so also the more highly developed of the Altaic languages, such as Turkish, may be said to represent an earlier stage of Ugrian itself. Thus in Ugro-Aryan the plural of nouns is formed by adding either the vowel *i* or a consonant which appears in Finnish as *t* and in Aryan as *s*—perhaps originally the English (þ)—as in Finnish *käde-t* "hand-s," partitive plural *käs-i-ä*, Greek *oíko-i* "houses," there being Ugrian evidence to make it almost certain that this *i* is a weakening of *k*, whose unaccountable absence from the Aryan inflections is therefore only apparent. Thus in these languages the plural is formed by suffixes which are incapable of standing alone, while the Turkish plural ending *-lar*, though not an independent word, has nothing in its form to show that it is not one. Again, in Altaic, these suffixes are so loosely connected with the stem that they can often change places with one another, and can be strung on one after another in a way that would be impossible in Aryan and most West-Finnish languages (p. 65). For these reasons we must regard the Altaic languages as agglutinative rather than inflectional.

A general survey of the Altaic languages, beginning with

the highly developed, half inflectional languages of the West, shows, as we advance east, a progressive preponderance of agglutinative over inflectional tendencies, and, at the same time, progressive simplification of the grammatical structure. In the Mongol dialects the grammatical suffixes are more loosely joined to their stems than in Turkish, and at the same time they are much fewer in number, so that many grammatical relations are expressed only vaguely, or not at all, and the parts of speech are only imperfectly discriminated. In Manchu, the most eastern of the continental Altaic languages, what seems to us so necessary a distinction as that of singular and plural has no grammatical mark, being only indicated when necessary by some such word as "many," as in Chinese.

With this loosely agglutinative structure is probably connected what is the most striking formal feature of these languages, which at the same time constitutes the main bond of union between them and the neighbouring Ugrian languages —that is, vowel-harmony. Vowel-harmony is common to all the languages of the two families, though it is almost—but not entirely—lost in Japanese in the extreme east, and Esthonian in the extreme west. It is fully developed in Finnish, though not so elaborately as in some of the Turkish dialects of Siberia. In Finnish, the vowels are divided, from the point of view of vowel-harmony, into the three classes hard, soft, and neutral. The hard vowels comprise all the back vowels, the soft the corresponding front vowels—what we should call "mutated" vowels, (*y*, *ö*, *ä*)—while those front vowels which have no corresponding back vowels are regarded as neutral (*i*, *e*). If the first vowel of a word is hard, all the other vowels in the word must be either hard or neutral, as in *muuttumattomuudestansa* "from his unchangingness"; if the first vowel is soft, all others must be soft or neutral, as in *tytymättömyydestänsä* "from his discontentedness." In some instances the vowel of a suffix is made identical with the one that immediately precedes, and this is carried out consistently in some of the Turkish dialects.

The physiological explanation of vowel-harmony is, of course, that it is simply the result of laziness; that is to say, that when the tongue was once put in the back or front position respectively, it was found easiest to keep the tongue in that position throughout the rest of the word as far as possible. The tendency to subordinate all the vowels in a word to the first vowel was greatly strengthened by the fact that in the Ugrian and Altaic languages the first syllable is always the root or stem, and always has the chief stress. Hence vowel-harmony serves both to further emphasize the subordination of the suffixes to the stem, and to bind these loose elements more closely together, and so assert the unity of the word as much as possible.

The affinity of Ugrian to Altaic is postulated not only by vowel-harmony and by geographical continuity and identity of race, but also by the general morphological relations between the two families, which are parallel, as already remarked, to those between Ugrian and Aryan: for just as Ugrian shows a stage of inflection out of which the Aryan inflections would naturally develope, so also Altaic shows a stage of agglutination out of which, as shown in Turkish, such inflections as we find in Ugrian not only could, but almost inevitably must have developed.

We have thus arrived at the further result that the Aryan languages are a branch of the great Ugro-Altaic family, the whole group of languages extending now from the Pacific to the Atlantic with hardly a break. It is interesting to observe the continuity and the progressiveness of the development of these languages from east to west. In Japanese in the extreme east we have a language which has never emerged from a primitive agglutinative type, in which the suffixes are so loosely joined to their stems that they seem as if they were on the point of falling off; then as we advance westward, we are met by increasing complexity of agglutinative structure, culminating in Turkish, till in the Ugrian languages we find fully developed inflection, accompanied by a gradually increasing simplification and selection, till we find in

Central Europe two most perfect and characteristic types of inflectional speech—that is, Finnish and Lithuanian, which latter is now the most conservative of the Aryan languages. Then, as we advance still further westward away from the central languages (p. 83), we find the inflectional system decaying more and more, till at last in the extreme West we find English in as nearly as possible the same stage morphologically as Japanese in the extreme East.

But we are still some way from the end of our inquiry, the next stage of which takes us to the valley of the Euphrates.

Sumerian. The cuneiform or arrow-headed inscriptions on the clay tablets and other remains found in the valley of the Euphrates and the neighbouring countries throw startling light on the origin of the Aryo-Altaic languages, and carry back their literary history to the very dawn of civilization.

The cuneiform system of writing was extensively applied to many different languages belonging to different families. The decipherment of the old Persian cuneiform inscriptions, the oldest of which belong to the sixth century B.C., led to the decipherment of the earlier Assyrian and Babylonian inscriptions, both written in a Semitic language closely allied to Hebrew.

Further excavations in the valley of the Euphrates revealed numerous monuments of a still earlier and non-Semitic race and language, the so-called Accadian, or Sumerian, as it is now generally designated.

The antiquity of Sumerian may be judged from the fact that it was already beginning to be a dead language as early as 2000 B.C. The definite ascendency of the Semites in the mixed population of ancient Chaldea began with the reign of Sargon I, himself a Semite, who united the two provinces of Sumir in the south and Accad in the north into one kingdom. The Sumerian civilization must have been an old-established one long before this event, which took place about 3800 B.C., and the Sumerians must have been in pos-

session of writing before 8000 B.C., which is about the date of the earliest written documents in Sumerian that have yet been discovered.

Some very ancient statues that were discovered in Babylonia fully confirmed the conclusion that the Sumerians were not a Semitic race. On the contrary, these statues showed all the characteristics of the Tartar or Finnic race. And when some progress had been made in deciphering the old Sumerian language, it was found to show striking signs of affinity with the languages of the Tartar races—more especially with the Ugrian family. With all distrust of similarity of vocabulary, one cannot but be struck by such resemblances as those between Sumerian *kha* "fish" and Finnish *kala*, *hidu* "moon" and Finnish *kuu*, Vepse-Finnish *kudai*. The comparison, too, of Sumerian *urudu* "copper" with Finnish *rauta* "iron" is certainly more plausible than the older assumption that the Fins, who were the acknowledged masters of the Germanic tribes in the art of metal-working, learnt the use of iron from the latter, and then, instead of simply adopting the Germanic name for it, took the Scandinavian word *rauþi* "hematite" as its designation. The truth is that *rauþi* and *rauta* are both independent formations from one Aryo-Altaic root meaning "red" or "dark."

But the main argument in favour of the affinity of Sumerian with the Ugro-Altaic family is that they are all governed by the great law of vowel-harmony, which in Sumerian as well as in Ugro-Altaic gave rise to the characteristic vowel (æ) in English *man* as the "soft" form of *a* together with front-rounded vowels resembling or identical with French *u* and *eu*. Many languages all over the world show various convergent acoustic sound-changes, but none of them show anything like vowel-harmony as carried out in these two groups of languages, and we cannot but regard this as being as decisive a proof of affinity as similarity of inflections would be.

Inflectional resemblances we cannot reasonably expect; for some of the Altaic languages themselves have hardly advanced

even to the agglutinative stage at the present day, and we cannot therefore expect a language which must practically be a near approach to the parent Altaic language to have developed inflections thousands of years ago.

Primitive as the structure of Sumerian is, it is far from being that isolating, monosyllabic, Chinese-like language we might be inclined to expect. On the contrary, its roots, or what appear to be such, are as often polysyllabic as monosyllabic, and this applies to particles as well as full-words; many, too, of the monosyllables seem to be late contractions of longer words.

Grammatical relations are shown in a variety of ways:—

(1) by *reduplication*, which appears in various stages, sometimes in that of complete repetition of the word, sometimes in various contracted forms, so that only the beginning of the word is repeated, as in the Aryan reduplication.

(2) by *prolongation*, that is, the addition of a vowel, preceding consonants being doubled: thus the "prolonged" form of *ad* "father" is *adda*. We may, however, conjecture that the relation between the two forms is the same as the relation between vocalic and consonantal stems in Aryan may be—that is, that prolongation is the original stage.

(3) by *prefixes* and *suffixes*, the same adfixes sometimes having different functions according as they precede or follow their stems. One stem may receive many of these elements: the language is highly polysynthetic.

(4) by *particles*, which are however often difficult to distinguish from the loosely agglutinated adfixes, particles which otherwise appear to be quite free, often entering into apparently close union with the former.

(5) by *word-order*, which, however, does not play a very prominent part in the morphology of a language which is provided with so many adfixes.

As might be expected, grammatical categories and relations are often not marked at all, but left to be inferred from the context. Thus the plural of nouns is often the same as the singular; the genitive relation is often shown by mere post-

position of the genitival word, as in *ē adda* (prolonged form) "house father," according to the general principle of putting adjunct-words after their head-words.

The whole structure of the language is based on the noun. Adjectives—which, in accordance with the general principles of Sumerian word-order, always follow their nouns—are not formally distinguished from these, and may indeed be themselves regarded as nouns in apposition or in the genitive relation, thus the half compound *lu-gal* "prince, king," literally "man strong," might also be explained as "man of strength."

The nouns have, of course, no distinctions of grammatical gender. They take postpositions answering to the cases of Finnish and Aryan, of which there are about nine—no doubt mere remains of a larger number. One of these, *-gim* or *-gime*, means "like," the others seem to be originally local in their meanings. *-ra*, often shortened to *-r*, is apparently a verb "go." *-ta* "in, out of, from" may be the parent of the Finnish partitive and the Aryan ablative. The plural is either left unmarked, or reduplication is used, as with *kur* "mountain, country," plural *kurkur*, or some periphrase is used. Prolongation of nouns seems to imply emphasis, as in *kurkura* "the mountains."

The pronouns play an important part in Sumerian grammar. The personal pronouns when absolute—that is, not used as adfixes—take various prolonged or emphatic forms, as with *za-ī* "thou"; when a postposition is added, they resume their shorter forms, as in *ma-ra*, "to me." But the pronouns generally appear in the form of adfixes; thus the possessive pronouns are suffixes, as in *ē-zu* "thy house," with the same order as with other genitival or adjectival words.

Verb-stems are capable of prolongation and reduplication, like the nouns, the bare stem generally having a preterite meaning, as in the Aryan root-aorist (Greek *élipon*), while the prolonged and reduplicated forms have a durative or present meaning, which again reminds us of the Aryan present-

stems. Special stems are formed by prefixes, most of which are identical in form with the noun-postpositions. Thus verbs of motion take *ra-*, which is therefore identical with the accusative postposition *-ra*. The negative particle *nu-* is often shortened and mixed up with other prefixes, so that practically we get a negative inflection of the verb. So also with other prefixed particles.

As regards the persons, the first and second are generally expressed by adding the possessive suffix to the prolonged root, as in *garrā-mu* "I make," *garrā-zu* "thou makest," from *gar* "make," the third person being left without any pronominal suffix, as in the Aryan perfect (*dedórce* "he has seen").

The verb-forms are greatly complicated by the addition of prefixes to denote the pronominal objects "me," "him," etc. Even pronouns in the dative relation are incorporated into the verb, as also a variety of particles.

All these additions follow each other in a more or less definite order, which, however, curiously enough varies at different periods of the language. In the later language the stem-prefixes *ra-*, etc., often follow instead of immediately preceding the verb-root.

The result of so many different adfixes coming together and being subject to all the disguises produced by the working of vowel-harmony, shortening, elision and blending together, is great complexity and irregularity, this chaotic, elastic irregularity being, however, very different from the stiff, fossilized irregularity of Aryan forms.

Sumerian may, then, be briefly described as a loosely agglutinative highly polysynthetic language with a tendency towards incorporation.

Such a language can easily develope in the two opposite directions of complexity and simplicity. By making its agglutinations fixed and permanent, it would develope either into an inflectional language like Finnish or a definitely incorporating language of the Basque type, according to the nature and amount of the logical control exercised over the

resulting forms. If, on the other hand, the agglutinations, instead of being tightened, were loosened again, the result would be that compromise between agglutinative and particle languages which we observe in the eastern branch of the Altaic family; and if the resulting particles were reduced to a minimum, and the words became monosyllabic by phonetic decay, a language of the isolating type would be evolved. Hence we see that the comparatively isolating structure of the eastern Altaic languages does not necessarily imply an isolating parent-language.

Whatever the precise relations between Sumerian and Aryan may be, there can be little doubt that Sumerian brings us much nearer than Finnish or Altaic do to the common ancestor of them all. At any rate, there is nothing in the morphological character of Sumerian to make such a relation improbable.

The Aryan Race. The great difficulty of the Aryan problem and one of the chief reasons for the prevailing prejudice against the hypothesis of a common origin of Aryan and Finnish is that the evidence of race seems to contradict that of language. The archæological researches of late years have shown that the undivided Aryans must have had a fairly definite type of their own, and that physically they were very different from the round-headed (brachycephalic), yellow-skinned Mongols, and that the primitive Aryan type is still faithfully preserved in the rural districts of Sweden: the original Aryans were a tall long-headed (dolichocephalic) race with blue eyes, fair hair, and pink-and-white complexion. Not only were they not an Asiatic race, but all the evidence seems to show that they were the descendants of the savages of the stone period, who were the first inhabitants of Europe.

Aryan cannot therefore have been their original language; it must have been a borrowed language—a language, as we have seen, of Asiatic origin. But instead of the Aryans coming from Central Asia and driving out a supposed Finnic population, as was formerly supposed, it was the Fins who invaded Europe and imposed their language on an alien race.

From what we know of the spread of Babylonian and Chinese civilization in historical times, there is reason to suppose that the spread of Asiatic culture and language in Europe was a very gradual and even to some extent a peaceful process, although it was no doubt aided by the polished jade or bronze weapons of the newcomers, to which the aborigines could only oppose weapons of chipped flint and bone-tipped arrows.

The immediate ancestors of the Aryans must therefore have been not only a mixed race, but a race in which the foreign element was strong enough to prevent the native language from getting the upper hand, as is generally the case when the conquerors constitute only a small body of aristocrats. But in all cases in which the language of the conquered absorbs that of the conquerors, the former constitute a settled population of some degree of civilization, being indeed generally superior in culture and therefore inferior in physical energy to their conquerors. In the case of the first invasion of Europe by Asiatics the circumstances were reversed; it was impossible that a scattered population of hunters and fishers should impose their language on a compact body of comparatively civilized invaders, who, however inferior they may have been in stature and muscular vigour, had metals and numbers on their side.

How is it then that the Swedes, who are undoubtedly as pure Aryans as any, both in race and language, show an almost pure European or Caucasian type?

The solution of the problem lies in the influence of climate. It is now generally agreed that the Caucasian is a bleached race—that its fairness is the result of long exposure to the intense cold of the glacier period, which of course continued, though in a milder form, long after the line of the glaciers had retreated to the Scandinavian peninsula. Hence even now the pure European races of the North thrive only in cold climates, and melt away under the sun of the tropics. Hence also when the fair races are mixed with darker ones the latter get the upper hand in southern climates: even the climate of England, inclement as it seems to a Southerner, is too mild

for the pure blonde type, which is becoming rarer and rarer every century. As we go further south, we find that in Germany, for instance, the dark-skinned, short-headed type predominates more and more over the fair-haired, white-complexioned, long-headed type of the north of Germany, till at last the long-heads form only a small percentage of the population, except in mountainous regions where the climatic conditions tend to keep up the vigour of the fair race.

Those investigators of Aryan affinities who, in their attempts to reconcile European race-affinities with Asiatic language-affinities, have been driven into assuming, against the main body of evidence, that the primitive Aryans were a predominantly short-headed and not a long-headed race, have overlooked the easy solution of the difficulty afforded by the consideration that if exposure to a warm climate modifies a mixed race in the way just described, the reverse change of climate would affect that same population in a reverse way: that is to say, they have omitted to consider what would be the effect on such a mixed race of exposure to a colder climate.

If we suppose a mixed population of long-heads and short-heads occupying the plains of Central Europe at a time when the extreme north of the continent was still kept uninhabitable by sheets of ice, and then suppose some of these following the retreating ice-line into the peninsula of Scandinavia, we have a probable hypothesis which sufficiently explains how in this mixed population thus restored to conditions exactly similar to those which had evolved one of its component races, the latter rapidly developed at the expense of the other, so that the proportion of long to short skulls in the old Swedish burial-places of the earliest prehistoric period is exactly the reverse of what we find in Southern Germany.

It is still generally assumed that the short skulls in these burial-places are those of an alien race—perhaps Finnish serfs. But it is not necessary to assume that the aristocrats should have buried low-class foreigners in their own cemeteries; and it is simpler to accept these short skulls as a proof that the Aryan

race itself was a mixed one. So also the tall, short-headed race which undoubtedly existed in Western Europe in prehistoric times may well be the result of a similar mixture of races.

An additional argument in favour of Scandinavia having been the original home and nursery of a definite Aryan race as opposed to the other mixed European populations is afforded by the dialectal relations of the Aryan language to its cognates. If Aryan had developed anywhere south of Scandinavia—if it had developed in the plains of Lithuania, as would otherwise appear the most probable hypothesis—Aryan and Ugrian would be connected by many links of intermediate dialects. But of this we see no traces: the two families are sharply and definitely opposed to one another in morphological structure, in spite of their common origin. This points clearly to a long period of isolation and solitary incubation, so to speak, on the part of that dialect of Ugro-Altaic which developed into the earliest stage of parent Aryan; and this condition is satisfied, as far as we can see, only by the hypothesis of Scandinavia having been the original home of the Aryan race and the Aryan language. Penka, the great advocate of the Scandinavian origin of the Aryans, has collected numerous and weighty arguments for this theory from the history and traditions of the different Aryan nations themselves.

CHAPTER VIII

The Individuality of Languages

In passing from one language to another the most general impression we receive is that of the strong individuality of each of them. No two languages are alike: even such mere dialects as Spanish and Portuguese, Danish and Swedish, are sharply contrasted in many essential features. We soon learn to recognize each language by its phonetic structure not only as heard, but also in its written form: even if we know practically nothing of the language, we can often say after reading a few lines, "this is Russian or Servian, this looks like Malay, this is a North-American Indian language." After further study we learn to feel the deeper divergences of grammatical structure, range of ideas, and the way in which ideas are analyzed and expressed; and all this can be observed and felt spontaneously without any help from direct grammatical and philological training.

In fact, the comparative and historical study of languages is apt to blind us to the recognition of the essential individuality of each of them.

After studying the comparative grammar of the Aryan languages with its incessant repetition of comparisons of a few hundred words such as Sanskrit *sūnú*, Old Bulgarian *synŭ*, Lithuanian *sūnùs*, Old English *sunu*, Modern English *son*, we are apt to forget that such close resemblances are few and far between, and that even in the most conservative Aryan languages the number of native words that can be at once recognized as Aryan is surprisingly small. And when we come to a language such as Albanian, we find that it is so

full of loan-words from the Romance and Slavonic languages, and from Turkish and Romaic, that out of more than five thousand words only about four hundred can be proved to be native. This is an extreme case; but even in such languages as Sanskrit and Greek the number of words of foreign or obscure etymology is greater than any one would imagine *à priori*, and it must not be forgotten that some of the words for which etymologies have been found may be familiarizations of foreign words, like *sparrow-grass* for *asparagus*. When we find the Sanskrit word for "bear" (animal) derived from a root meaning "to shine," we cannot help suspecting either this explanation or a false etymology. Of those words whose etymology is certain, many are so disguised by sound-changes and changes of meaning that none but a philologist could recognize them. So also dialect-enthusiasts pick out a few sensational archaisms, and ignore the fact that the special vocabulary of their dialect is made up just as much of distortions of often only half-understood words of French and learned origin imported direct from the standard language, such as *bayonet*, *bronchitis*. It is the same with the recognition of affinities. Finnish, Lappish and Hungarian are closely related, but it was not till 1770 that the Hungarian Sajnovics published his proof that Hungarian and Lappish were the same language—that is, cognate—and so laid the foundations of comparative Ugrian grammar. Nor was it without hesitation that the founders of Aryan comparative philology admitted the Celtic languages into the Aryan family.

We find the same individuality in the general structure of languages. Sanskrit, Latin and Greek are all inflectional languages belonging to the same family, and yet they make a very different use of their common inflectional material. There can be no greater contrast than that between the varied building up of the Latin sentence with its constant alternation of direct and indirect narration, accusative with infinitive, and ablative absolute, and its finely-graded sequence of tenses, and the heavy and monotonous classical Sanskrit sentence overloaded with participles and gerunds, often to the almost

complete exclusion of the finite verb, and its long compounds which usurp the functions of inflection. Greek, again, uses its inflections in a very different way from Latin, and more like the modern analytical languages of Europe.

From this point of view the morphological classification of languages acts as a welcome corrective to the purely genealogical and historical classification. It teaches us both to recognize what are the really characteristic and more or less permanent features in the different periods of a language or in the members of a group of cognate languages, and also to realize that languages genealogically unconnected may develope similar morphological structure. But even an elaborate morphological classification does but scant justice to the infinite variety of linguistic structure, as we see from what has just been said about the divergent structure of Sanskrit, Latin, and Greek.

Phonetic individuality. The first thing that strikes us in a new language is, of course, its phonetic structure. This depends, in the first place, on the sounds of which it is composed. Every language, and every period of a language, selects for its own use only some out of the whole body of available sounds. Thus English has mixed vowels, but no front-round vowels of the type of French *u*, and it is rich in hiss-sounds. Arabic, again, is characterized by its numerous back and throat consonants—x, γ, k, q (inner k), ḥ, ʿ, ʾ (glottal stop). The number of elementary sounds in a language is also characteristic. Harmonious and sonorous languages have few sounds with well-marked distinctions, especially in the vowel system; while an exceptionally large number of sounds, as in Celtic Irish, and to a less extent in English and Russian, implies numerous transitional and intermediate sounds, which detract from the harmony of the language and give it a certain character of indistinctness and even monotony. Very characteristic, too, are distinctions which result from different principles of combination. Thus English and Arabic tolerate what in other languages would seem intolerably harsh consonant-groups, which in Arabic, however, are excluded from the beginning of the word, while English has no more

objection to such initial combinations as (str-) than it has to such final groups as (-ksts). Then we have endless synthetic distinctions of stress, quantity, and intonation. In some languages, such as French, there is a tendency to equal stress on all syllables. In Finnish there is a strong stress on the first syllable with rigorous preservation of the distinctions of short and long vowels, double and single consonants in the unstressed syllables, which is effected not so much by exaggerating the length of the long vowels and double consonants as by excessive shortening of the short vowels and uttering the single consonants as lightly as possible. In English we have strong stress on any syllable with great obscuration of the unstressed syllables. In Russian and the Romance languages there is hardly any distinction of quantity in the vowels; and in Spanish we hear a combination of very short vowel-quantity and falling intonation which gives the language a harsh and almost brutal character in spite of the harmony of its vowels. In Swedish every full-stressed vowel is either long or followed by more than one consonant, so that there are no short stressed syllables, which gives a certain heaviness to this harmonious language. The influence of intonation on the general phonetic character of a language is equally important. The monotonous falling tones of Finnish and the predominance of rising tones in Scotch and of compound rising tones in American-English are among the most marked phonetic characteristics of these forms of speech, and the ones that strike a foreigner first. The constant alternation of varied word-tones in Chinese give a peculiar graceful animation to the language which reminds one of the twittering of birds.

Besides these influences, the general quality of the voice is liable to be modified by changes in the shape of the throat and mouth passages, which give rise to the various qualities of voice known as clear, dull, muffled, nasal, wheezing, strangled voice. The last effect is a disagreeable feature of Portuguese pronunciation.

Every language has certain general tendencies which control the organic formation of its sounds, constituting what is called

its *organic basis* or basis of articulation. Thus in English we flatten and lower the tongue, hollow the fore part of it and generally draw it back from the teeth, while we keep the lips in a neutral position without either pouting them or spreading them out at the corners. This flattening of the tongue leads to widening of the vowels, its hollowing gives a general dull resonance which is especially noticeable in the (l), while the retraction of the tongue favours the development of mixed vowels, and the neutral position of the lips tends to eliminate front-round vowels. In French everything is reversed: the tongue is arched and raised and advanced, and the lips articulate with energy, whence narrowness both in vowels and consonants, a tendency to outer (dental) articulation of point and blade consonants, and full development of front-round vowels. The organic basis together with the general synthetic distinctions of stress and intonation are often more permanent than the actual sounds of a language, and a minute comparative study of such features will in the future be an essential branch of comparative philology. But the organic basis is, of course, like everything else in language, liable to change. Thus the organic basis of early or Tudor Modern English seems to have been different in many respects from that of the present English and to have been nearer to that of Modern French.

Range of Expression. If we turn now from the purely formal to the grammatical and logical characteristics of languages, our attention may first be directed to differences in range of expression. We cannot expect the speakers of a language to have expressions for ideas and things with which they are unacquainted; but even within the limits of what is common to all minds we find great differences in detail. Often in speaking a foreign language we seek in vain for a precise equivalent for some native word or idiom, and find that there is not any definite equivalent, and that we must content ourselves with a vague periphrasis. Sometimes the difficulty arises from want of an abstract general term, as when in savage languages there is no word for "tree" but

only names for the different kinds of trees, or no word for "wash" but only words for washing the feet, washing the hands and so on. On the other hand, the expression may be too vague; most languages have words like *get* in English or *coup* in French, which to a foreigner seem to mean almost anything.

In comparing the range of expression and copiousness of vocabulary in different languages we must be cautious in assuming that a language is unable to express a certain idea merely because we do not find the expression in the exact place in the language where we expect to find it. As we have seen, there are many languages which have no plural inflection or indeed any grammatical marking of the plural; but this does not imply that they are unable to make the distinction: in such languages the plural is marked by the addition of some such word as "several" or "many." So also we make the German *männlein* into "little man" with a full-word instead of a diminutive ending. We are often inclined to admire and envy languages which have special derivative elements with which they can express such ideas as "succeed in shooting a bird," "gain by singing," "begin to become red," and express the idea of smallness combined either with that of affection or of contempt by the addition of special endings; but all the ideas conveyed by such formations can generally be expressed with greater precision and often with equal brevity in a language destitute of them.

In estimating the copiousness of the vocabulary of a language we ought strictly first to eliminate everything that can be formed *à priori*—that is, such compounds and derivatives as *giraffe-catcher* or *bonnetless*, which, logically speaking, are no more independent words than the phrases *catcher of giraffes* and *without a bonnet*—together with all fantastic literary new formations which perhaps occur only in the writings of a single author. We must also limit ourselves strictly to one period of a language: the English of the *New English Dictionary* is not one language, but half-a-dozen. So also in comparing the number of roots we must, when we come to the Semitic

triliteral roots, make some allowance for the fact that they are really derivatives from biliteral roots (p. 95.)

Language and Nationality. The interesting question now arises, How far are the infinite varieties in the characters of languages to be regarded as the expression of the national characteristics of their speakers?

As already remarked, we cannot expect to find in a language expressions for what is unfamiliar to its speakers. Hence from a meagre vocabulary we cannot but infer a low intellectual development—so low indeed as to make the speakers unable to observe the objects around them. The question is, whether such languages really exist outside the imaginations of *à priori* theorists. A statement has often been repeated that the natives of a certain district in the South of England had only three hundred words in their vocabulary. But when we find a missionary in Tierra del Fuego compiling a dictionary of 30,000 words in the Yaagan language—that is, a hundred times as many—we cannot give any credence to this statement, especially if we consider the number of names of different parts of a waggon or a plough, and all the words required in connection even with a single agricultural operation, together with names of birds, plants, and other natural objects. The complexity and variety of external objects and phenomena is so great that even on a purely material and objective basis there would be no difficulty in increasing the vocabulary indefinitely. The truth seems to be that in all languages—whether primitive or advanced—words are formed to express whatever calls for expression, and this goes on till the vocabulary is so large that any addition to it would be a strain on the memory of the average speaker. The condition of any word being permanently adopted into the vocabulary is that it must occur often enough not to be forgotten by the majority of the speakers.

It is therefore more profitable to consider the relative frequency of the different categories of ideas in the vocabulary. If a group of cognate languages have no word in common to express any idea connected with agriculture, but have many

unborrowed words connected with hunting, we are inclined to infer that the speakers of the parent language had not emerged from the hunting or at least the nomadic stage. A comparison of the common Aryan vocabulary seems to show that the undivided Aryans were nomad herdsmen and hunters, with perhaps some knowledge of agriculture, but with hardly any knowledge of metal-working. The common Semitic vocabulary shows a striking poverty in designations of external nature; and the negative evidence thus afforded of life in a barren monotonous country is confirmed by positive linguistic evidence of the primitive Semites having been dwellers of the desert; which, with other arguments, leaves but little doubt that their original home was Arabia.

But "linguistic palæontology" requires caution and control by archæology. Thus it used to be assumed that because all the Aryan languages had originally the same word for "horse"—even Old English still preserves Aryan *ecwo* in the form of *eoh*—therefore the Aryans must have ridden or at least driven horses. But the archæological evidence only tells us that the Stone-age ancestors of the Aryans hunted the horse for its flesh, so that all the Aryan *ecwo* allows us to infer is that the Aryans were acquainted with the wild horse of the plains of Europe.

We have also to be cautious in drawing negative conclusions. Thus it has been inferred from the absence of any common Aryan or Ugrian word for "blue" and some other colours together with a variety of other evidence of the same kind that the older races were more or less colour-blind. But it was afterwards observed that all the colours whose names can be referred back to parent Aryan and parent Ugrian are colours of cattle; that is, the first colours to receive special names were those by which they identified their most valued domestic animals. This is confirmed by the fact that in Finnish the word for "colour," that is *karva*, originally meant simply "hair." It is evident therefore that such limitations have nothing to do with the degree of development of the colour-sense: these primitive people did not speak

much of "blue" because they had little occasion to do so; and if they had, it was easy to say "like the sky, the colour of the sky."

That the vocabulary of a language not only can, but must reflect something of the character and environment of its speakers is evident. The question how far the morphological structure of a language does so, is more difficult.

Here, again, caution is necessary. When we find the Old Germanic languages modifying the Aryan principles of concord by putting an adjective which refers to a man and woman together in the neuter plural instead of the masculine plural, as was originally done, we are inclined to regard it as a proof that our forefathers had already developed something of that abstract and philosophical turn of mind which the average Englishman is apt to associate with the name "German." But it turns out that the change was originally a purely phonetic one, by which the old dual ending was confused with that of the neuter plural. So it was not the minds of the speakers which created this new principle of concord; it was the phonetic change which created first the new concord, and then the logical sense that it was more rational to include male and female under the more abstract neuter than to merge them under what was considered the superior sex.

The doubling of the middle consonant in Arabic verb-roots to give them a special causal or transitive meaning, as in *sallam* "surrender," seems a natural enough piece of symbolism, but it is more probable that these forms are the result of contractions of the reduplicated roots which have similar grammatical functions in the cognate Hamitic languages of North Africa. It is still more doubtful whether the curiously symmetrical use of the three short vowels *a, i, u,* in Arabic to denote the accusative, genitive, and nominative cases respectively is anything but fortuitous, for such abstract symbolism seems far beyond the mental capacity of a primitive population. We might as well attempt to find symbolism in *sing, sang, sung.*

We also have to be careful in our chronology. From the fact that some of the Aryan-speaking populations have been

the great carriers of civilization, and that the Aryan languages were originally inflectional, it has been inferred that the inflectional structure is in some way an expression of the intellectual superiority of the Aryan race. But the truth is that at the time when the Aryans laid the foundations of their inflectional system they were far from being in an advanced state of civilization, and that it was not till a long time after that—after they had served their apprenticeship to the older civilizations of the Mediterranean, Egypt, and Western Asia —that they developed any independent intellectual activity. It must also be observed that some of the great triumphs of civilization have been achieved by nations speaking Aryan languages in the analytical rather than the inflectional stage. Even of Greek we may say that its genius is analytical rather than inflectional, and that instead of the Greek inflections being the expression of Greek intellect, they were rather antagonistic to it.

The only features of Greek that can be really reflections of the Greek mind are those which were developed in the language itself. The contrast between the Greek and the less intellectual Roman mind is clearly stamped on the languages of these two nations. The practical Roman was contented with a narrow concrete vocabulary, and aimed at a businesslike conciseness of expression, to which he was inclined to sacrifice both flexibility of expression and distinctness of meaning. All of this he found compatible with, and to some extent in harmony with his traditional system of inflections, which he accordingly developed in such a way as to create a perfect type of inflectional speech—that is, from the syntactical point of view. The active Greek mind, on the other hand, required flexibility and clearness of structure wherewith to give expression to his abstract speculations, and finding the purely inflectional system inadequate for his wants, proceeded to anticipate the analytical developments of the later Aryan languages. He evolved a definite article, which in time lost nearly all meaning, and became a mere prop for inflections—a grammatical device for inflecting infinitives and

so on. The analytical genius of the Greeks is most clearly shown in their particles, whose over-development at the same time reflects some of the weak sides of their intellectual temperament.

Chinese bears in its structure still more definite marks of intellectual power. It combines Roman brevity with Greek love of clearness and moderation of expression, but shows none of the imaginative and poetical qualities reflected in most Aryan languages. It is characteristic of the Chinese mind that it never personifies: in such a collocation as that which is literally translated *his hand guide me*, where *hand* would otherwise be naturally taken as the subject, we must take it adverbially, and translate "with his hand he guides me." The Chinese linguistic instinct is, as we have seen (p. 69), highly abstract and generalizing, and this tendency, together with the desire of logical clearness, has led to a great development of particles, which, like the Greek, are often untranslateable. This use of particles is however partly the result of the development of sentence, intonation being hindered by the word-tones, many of these particles serving practically as marks of punctuation. If Old Chinese is often ambiguous, this is partly the result of our unfamiliarity with Chinese trains of thought, partly of excessive conciseness and reliance on the context, in which Chinese is the very antipodes of Greek and the other Old Aryan languages.

Intellectual activity is shown as clearly in the structure of the Chinese sentence as in those of Greek and Latin. The flexibility of the Old Chinese construction and the ease with which logically prominent words are put at the beginning of the sentence are truly marvellous when we consider that all this is done in spite of the dependence of Chinese grammar on word-order and with the help only of a few loose particles.

The other extreme of artless monotony is shown in Arabic and the other Semitic languages. Arabic has practically no infinitives or participles and makes but little use of dependent sentences, so that its periods are very short, and mainly para-

tactic. The Arabic sentence with its excessive use of finite verbs is, however, not at all clumsy like that of the later Sanskrit and the Ugro-Altaic languages with their excessive use of infinitives and participles; on the contrary, its simplicity gives a great charm to simple narrative. But the sentence structure of all these languages gives the impression either of want of intellectual activity or of over abstraction. It is to be observed that the earlier pre-classical Sanskrit prose is much lighter and more varied than the classical, and makes a free use of finite verbs; much of the heaviness of the later language may be the result of its being a dead language.

The South African Bantu languages certainly reflect one of the most prominent national characteristics of their speakers. The African is a born orator and lawyer: he loves arguments and elaborate statements. It seems evident, therefore, that it was the necessity of knowing "who's who" in a complicated legal statement which led to the elaboration of their peculiar system of concord (p. 57).

We have lastly to remember that language is not merely a means of expression. Even when a language is extended from the service of everyday life to that of science, metaphysics, and religion, there still remains its æsthetic and literary use. We cannot regard language exclusively from the practical and utilitarian point of view. Language was, almost from the beginning, a plaything as well as an intellectual tool—a vehicle of wit, humour, imagination and poetry. From this point of view we can understand—what would otherwise be a puzzle—why the development of such a common-sense language as Chinese is but an isolated phenomenon. The imaginative and emotional Aryan or Semite could never have followed the narrow path of Chinese linguistic development. To them Chinese would appear like a solid and symmetrically built house without ornament outside and with walls bare of pictures.

But even the Semitic languages, with all their picturesqueness and emotional force, lack the flexibility and variety of the Aryan languages, in which they are, indeed, inferior to the

Ugrian languages as well. The Semitic languages compared with the Aryan always give the impression of rigid schematism and artificial symmetry. It is a significant fact that no Semitic race has ever produced anything resembling an epic poem: it is only the Aryan and the Ugrian languages that can afford a frame for such a sustained effort of imagination.

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